



The University of Toledo

WORKFORCE DEVELOPMENT PRIORITIES

The legislation requiring Campus Completion Plans (ORC Sec. 3345.81) calls for the plans to “align with the state’s workforce development priorities.” UT has a number of academic and support services that respond to regional/state needs.

The University of Toledo is committed to community outreach and global engagement and to being a key driver in the revitalization of the region’s economy and quality of life. UT has established an Office of Workforce Development to help meet these goals. The Office of Workforce Development advances the mission and vision of the University by working collaboratively with UT Colleges and departments to engage with business and industry leaders towards a shared goal of building the regional workforce now and in the future. Under the leadership of University College, and guided by an Advisory Board, the Office of Workforce Development helps to coordinate workforce and economic development initiatives. The University, its faculty, and staff are actively engaged in a diverse array of workforce development activities with major businesses, governmental agencies, and educational non-profits reflective of the University’s commitment to its role of community outreach and engagement.

Building upon the University’s role in outreach and engagement, UT’s undergraduate and graduate academic colleges are heavily invested in experiential learning. The curriculum supports both regional and state economic development through research, scholarship, service and workplace development. Students spend a significant amount of time in clinical, internship, externships, co-op and directed practice. More than 50% of our graduates participate in mandatory experiential learning activities. If we include optional experiential learning opportunities, more than 64% of our graduates participate.

Students at the undergraduate and graduate level have opportunities to participate in research in laboratories, the community and local business and industry. All these programs provide students with opportunities to reflect, to take the initiative, to make decisions, to solve real-world problems, to learn to manage time, to think critically, to act professionally and ethically, to become more culturally competent and to learn citizenship and communication skills. The graduates of the University are poised to enter the workplace meeting the needs of the nine **JobsOhio** key industries (advanced manufacturing, aerospace and aviation, automotive, biohealth, energy & chemicals, financial services, food & agribusiness, information technology, and logistics & distribution) and garner positions that are on the list of **Buckeye Top Fifty** high wage occupations in Ohio.

Given the breadth of The University of Toledo's academic offerings, it is no surprise that the University supports the development of a high-quality workforce for all of the state's nine key industries. Some examples are summarized below:

- **Advanced Manufacturing**

UT supports this industry with majors in many areas but perhaps most closely aligned are UT's engineering and business programs that support world class manufacturing and through the college of engineering's co-op program that places students in manufacturing settings across Ohio.

- **Aerospace & Aviation**

UT's College of Engineering has been a leading source of talent for the aerospace industry for decades and has had a strong relationship with NASA Glenn Research Center in providing advanced education for NASA scientists and engineers in aerospace technology. UT's focus is on fluid dynamics and structures and has a Small Turbine Institute that provides students with hands on training on equipment that provides them with experience needed for the aerospace industry.

- **Agribusiness & Food Processing**

UT supports the agriculture and food industry by programs in biological sciences, environmental sciences, business, and engineering. UT is heavily engaged in the Northwest Ohio greenhouse industry and is working with growers on the introduction of new technology into the industry.

- **Automotive**

UT's College of Business and Innovation and its College of Engineering have a long history of providing talent to the automotive industry and its value chain. UT trains students on quality control methods, robotics, information technology, and materials that are needed for industry.

- **Biohealth**

UT's has strong programs in health and biology across its two campuses and has three colleges dedicated to preparing health professions across a range of occupations needed for the industry. Occupations include new physicians trained at the College of Medicine, pharmacists trained at the College of Pharmacy and Pharmaceutical Sciences, nurses trained from the College of Nursing, and a wide range of health professionals including physical therapists,

occupational therapists and respiratory care professionals trained at the College of Health Sciences.

- **Energy & Chemicals**

One of UT's strengths is its program in the energy industry. UT is particularly strong in solar and renewable energy with programs in the College of Natural Sciences and Mathematics and the College of Engineering. In addition, UT supports the electric power and oil and gas industry with students who graduate with degrees in chemical and electrical engineering. UT supports the chemicals industry by training students in chemistry and chemical engineering. UT chemistry graduates learn how to synthesize and characterize materials and chemical engineering graduates are broadly trained to support the energy and chemical industry.

- **Financial Services**

UT's College of Business and Innovation supports the financial services industry across all of its academic programs, particularly those in finance and accounting. In addition, the College supports related industries such as insurance. The Department of Mathematics produces students trained in quantitative methods needed for both the financial services and insurance industries.

- **Information Technology**

UT supports this key industry with programs in the College of Business and Innovation, the College of Engineering and other specialized programs such as GIS training from the Department of Geography and Planning. Our Bachelor of Science in Information Technology (BSIT), in the College of Engineering features a hands-on education leading to careers in the management of the technology infrastructure of organizations of all types and sizes. The curriculum covers the operational support and administration of diverse computing systems and the integration of existing technologies, components and products.

Centers and Institutes

The University of Toledo is actively involved in the Northwest Ohio region's economic development efforts. Many centers and institutes have joined the economic development endeavors to help strengthen and grow the communities in and around Toledo.

- **The Wright Center for Photovoltaics Innovation and Commercialization**

The Wright Center for Photovoltaics Innovation and Commercialization (PVIC) supports the generation of employment opportunities for Ohio's workforce through innovation and commercialization activities centered on eliminating commercialization barriers currently facing Ohio companies in the photovoltaics (PV) sector. Companies active in the PV industry, from those researching advanced materials development to those deploying the energy producing devices, advise and coordinate experts in Ohio universities and national laboratories in their PVIC contributions.

- **The University of Toledo's Urban Affairs Center**

The Urban Affairs Center is an applied research unit of The University of Toledo within the Office of Research and a member of the Ohio Urban University Program. Their mission is to enhance the economic vitality and quality of life of Toledo and its metropolitan region. The University of Toledo's Urban Affairs Center, working collaboratively with Bowling Green State University's Center for Policy Analysis and Public Service, identified a number of technology clusters for Northwest Ohio that are the focus of a coordinated economic development program involving the Regional Growth Partnership, the Toledo-Lucas County Port Authority, the City of Toledo, and Lucas County.

- **The Family Business Center**

The Family Business Center recognizes excellence in locally owned family businesses and encourages greater understanding, provides resources and support, and keeps family businesses informed. Programs are offered annually to provide information on family business topics of interest to members by employing nationally known speakers, case studies, family business owners and other experts to discuss business issues and challenges from their personal perspective or professional experience.

- **Center for Continuous Improvement**

The Center for Continuous Improvement serves as the multi-disciplinary outreach and engagement linchpin between the UT College of Business and Innovation and the business community of Northwest Ohio. In fulfilling this role, the Center for Continuous Improvement seeks to leverage the College's

teaching/learning capabilities and research expertise to address issues that adversely impact the business climate and economic development of the region and serves as a resource for enhancing the global competitiveness of individual organizations.

- **Technology Transfer**

Technology Transfer is the office that facilitates industry collaboration by clarifying intellectual property concerns.

- **UT Polymer Institute**

UT Polymer Institute is an educational and industrial training center for polymer science and engineering that is designed to provide industrial support through contract research and development activities.

- **Small Turbine Institute**

Small Turbine Institute private-public sector partnership focuses on the advancement of small turbine power systems for civil aviation, military, and space propulsion systems. Research and development on fuel utilization is evaluated in order to secure the most effective performance.

- **Center for Geographic Information Sciences and Applied Geographic's (GISAG)**

The Center for Geographic Information Sciences and Applied Geographic's (GISAG) at the University of Toledo serves as a focal point for GIS contract research on campus and in the local and regional community, a clearinghouse for GIS research opportunities, and provides sources of expertise to enhance student learning at all levels and across a wide range of academic disciplines. The GISAG Center will offer GIS graduate certification programs, provide geospatial databases to campus users, and administer system-wide GIS software licenses. In addition, the center seeks to solve complex problems related to regional and community issues, environmental protection, land use planning, economic development, site characterization, resource mapping and GIS/GPS support.

Training Toledo's Future Workforce

The University of Toledo has a long history of working to build Toledo and northwest Ohio's future workforce. Over 2,000 workers from the Toledo North Assembly Plant of Fiat Chrysler Automobiles US LLC have completed training on UT's Scott Park Campus to build the next generation Jeep Wrangler. The training program was developed through a partnership between UT, Chrysler and Northwest State Community College. It reflects the coordinated effort within the University and between Ohio's public, postsecondary institutions as part of the state's regional compact initiatives.

UT continues to work with its community economic development resources that include:

- Regional Growth Partnership
- Lucas County Economic Development
- Toledo Regional Chamber of Commerce
- Toledo-Lucas County Port Authority
- Northwest Ohio Regional Economic Development
- Ohio Department of Development
- Toledo Metropolitan Area Council of Governments
- Lucas County Workforce Development Agency

Connecting Students with Employers

The University of Toledo has a wide range of programs at the undergraduate and graduate level that prepares our students for a place in the economic, civic and cultural future in the State of Ohio. The University helps prepare students for their future by providing services that help them select their course of study, identify experiential learning opportunities that will advance their future and assist them in placement post-graduation.

- **Center for Experiential Learning & Career Services (CELCS)**
Center for Experiential Learning & Career Services offer resources and strategies for choosing a college major, developing career plans, preparing for a job search and interview, finding on and off campus part-time jobs, and identifying internships and full-time career positions. CELCS also provides service learning and community engagement opportunities.
- **The Women in STEMM Excelling (WISE) Mentor Program**
WISE is a mentor program for women interested in pursuing undergraduate degrees in any of the Science, Technology, Engineering, Math or Medicine

(STEMM) areas of study. WISE will link women science students with mentors, academic support, and a peer community during their first year of study. The goal is to ensure that all women students interested in a STEMM degree will receive the necessary support and encouragement to have a successful career at UT and beyond.

- **Business Career Programs Office**

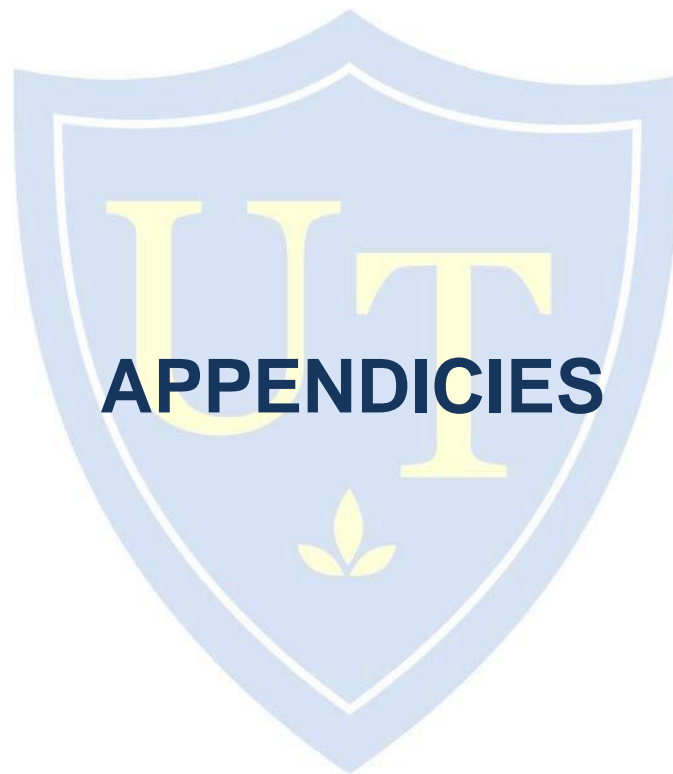
The Business Career Programs Office in the College of Business and Innovation (COBI) administers and coordinates internships and permanent placement for the COBI students. The program offers undergraduate and graduate students the opportunity to work in jobs directly related to their career fields while they are pursuing their degrees. Upon nearing graduation, the program aids the student in seeking a permanent position. The program's facilities are available for on-campus interviews and coordinates campus recruiting visits and a candidate referral system to help fill employer vacancies. Career advisers assist students with their career research, resume preparation and interview strategies. Approximately 85 percent of the COBI students will have participated in at least one internship prior to graduation. The College consistently has over a 90% placement rate upon graduation.

- **College of Engineering Career Development Center**

The College of Engineering adopted a mandatory co-op strategy for all incoming engineering cohorts starting fall 1997 and over the past 19 years has had more than 19,000 student co-op placements with over 2,400 employer sites. Geographically, the placements have spanned 42 countries and 44 states, with 70 percent of these placements in Ohio, including 70 of the 88 counties. The College has a well-organized Career Development Center, sophisticated software, and relationships with over 1,400 employers. The Center assists students nearing graduation with career placements.

- **College of Medicine and Life Sciences**

The Office of Student Affairs services the College of Medicine and Life Sciences provides career and residency advising throughout the four years of medical school. They provide a systemic approach to career advising and residency counseling that spans all four years of medical school.



Appendix B



Buckeye Top Fifty: 2008-2018 Ohio's High-Wage Occupations in Demand

2008 Employment	Total Annual Openings 2008-2018	Projected Annual Change 2008-2018	Projected Percent Change	Average Annual Earnings	Education	Knowledge
Business Cluster						
Customer Service Representatives	63,800	3,644	10,650	12.0%	\$32,355	Customer & Personal Service, Clerical, English Language
Accountants and Auditors	45,900	1,359	7,330	16.0%	\$62,837	Economics & Accounting, English Language, Mathematics
Market Research Analysts	8,780	438	2,000	22.8%	\$62,837	English Language, Customer & Personal Service, Administration & Management
Cost Estimators	10,170	411	1,850	18.2%	\$61,152	Mathematics, Engineering & Technology, English Language
Training and Development Specialists	9,180	411	1,710	18.6%	\$53,477	Education & Training, English Language, Customer & Personal Service
Employment, Recruitment and Placement Specialists	7,450	370	1,750	23.6%	\$51,480	English Language, Customer & Personal Service, Administration & Management
Public Relations Specialists	6,900	276	1,130	16.4%	\$52,458	Communications & Media, English Language, Sales & Marketing
Compliance Officers, except Agr., Construction, Health, etc.	8,080	269	1,330	22.6%	\$53,622	English Language, Law & Government, Customer & Personal Service
Financial Analysts	7,310	230	970	13.3%	\$73,185	Economics & Accounting, English Language, Mathematics
Paralegals and Legal Assistants	6,570	192	1,170	17.8%	\$44,200	English Language, Law & Government, Clerical
Compensation, Benefits & Job Analysis Specialists	4,930	184	710	16.4%	\$54,080	Personnel & Human Resources, English Language, Administration & Management
Real Estate Sales Agents	5,620	176	840	14.9%	\$49,213	Sales & Marketing, Customer & Personal Service, English Language
Personal Financial Advisors	4,910	159	1,060	21.8%	\$88,851	Customer & Personal Service, Sales & Marketing, Economics & Accounting
Construction & Transportation						
Truck Drivers, Heavy and Tractor-Trailer	75,880	2,271	8,130	12.0%	\$38,187	Transportation, Public Safety & Security, English Language
Construction Laborers	28,050	952	3,640	13.0%	\$38,480	Building & Construction, Design, Mathematics
Heating, AC, & Refrigeration Mechanical Installers	11,450	438	2,740	24.0%	\$46,280	Mechanical, Customer & Personal Service, Mathematics
Cargo and Freight Agents	2,160	101	510	23.6%	\$38,670	Transportation, Customer & Personal Service, English Language
Community & Social Service						
Medical and Public Health Social Workers	6,400	268	1,270	19.8%	\$45,510	Psychology, Therapy & Counseling, Sociology & Anthropology
Mental Health & Substance Abuse Social Workers	4,900	212	870	17.4%	\$37,128	Therapy & Counseling, Psychology, Customer & Personal Service
Mental Health Counselors	4,110	180	970	23.6%	\$43,659	Psychology, Therapy & Counseling, Customer & Personal Service
Education						
Self-Enrichment Education Teachers	7,260	300	1,910	26.2%	\$42,453	Education & Training, Customer & Personal Service, English Language
Instructional Coordinators	6,380	244	1,040	16.3%	\$61,638	Education & Training, English Language, Psychology
Health Care						
Registered Nurses	118,680	4,175	21,020	17.7%	\$59,738	Medicine & Dentistry, Customer & Personal Service, Psychology
Licensed Practical & Licensed Vocational Nurses	41,570	2,022	7,220	17.4%	\$39,915	Medicine & Dentistry, Customer & Personal Service, Psychology
Physicians & Surgeons	27,860	974	4,800	17.1%	\$185,481	Medicine & Dentistry, Biology, English Language
Dental Assistants	9,070	438	2,510	25.2%	\$32,323	Medicine & Dentistry, Customer & Personal Service, English Language
Pharmacists	11,720	419	1,580	13.6%	\$102,357	Chemistry, Medicine & Dentistry, English Language
Medical and Health Services Managers	12,510	406	1,650	13.2%	\$63,117	Administration & Management, Customer & Personal Service, English Language
Dental Hygienists	7,100	323	1,760	25.1%	\$62,026	Medicine & Dentistry, Customer & Personal Service, English Language
Physical Therapists	7,650	271	1,700	23.4%	\$75,338	Medicine & Dentistry, Therapy & Counseling, Customer & Personal Service
Physical Therapist Assistants	4,800	220	1,510	31.4%	\$51,188	Customer & Personal Service, Therapy & Counseling, Medicine & Dentistry
Respiratory Therapists	5,310	182	850	16.0%	\$50,003	Customer & Personal Service, Medicine & Dentistry, Education & Training
Speech-Language Pathologists	5,080	170	770	15.1%	\$71,230	English Language, Therapy & Counseling, Education & Training
Occupational Therapists	4,270	164	860	20.1%	\$74,558	Therapy & Counseling, Psychology, Education & Training
Surgical Technologists	3,440	158	710	20.6%	\$38,887	Medicine & Dentistry, Customer & Personal Service, English Language
Occupational Therapist Assistants	2,430	108	730	30.0%	\$51,263	Psychology, Education & Training, English Language
Physician Assistants	1,910	99	640	33.5%	\$63,666	Medicine & Dentistry, Biology, Psychology
Veterinarians	2,070	92	500	27.1%	\$91,354	Biological, Customer & Personal Service, Medicine & Dentistry
Athletic Trainers	870	60	310	35.6%	\$42,880	Medicine & Dentistry, Therapy & Counseling, Customer & Personal Service
Information Technology, Engineering & Science						
Computer Support Specialists	22,090	669	2,610	13.0%	\$41,746	Computers & Electronics, Customer & Personal Service, English Language
Computer Software Engineers, Applications	21,470	648	6,670	31.1%	\$61,474	Computers & Electronics, Mathematics, English Language
Network Systems and Data Communication Analysts	11,790	721	5,090	43.2%	\$71,510	Computers & Electronics, Telecommunications, English Language
Computer Systems Analysts	19,140	676	2,530	13.7%	\$77,834	Computers & Electronics, English Language, Customer & Personal Service
Network and Computer Systems Administrators	15,910	469	2,340	14.7%	\$62,317	Computers & Electronics, English Language, Mathematics
Computer Software Engineers, Systems Software	10,170	334	2,480	24.4%	\$61,138	Computers & Electronics, Engineering & Technology, English Language
Computer and Information Systems Managers	9,180	262	1,230	12.6%	\$111,821	Computers & Electronics, Administration & Management, Customer & Personal Service
Civil Engineers	6,960	229	1,110	15.9%	\$73,070	Engineering & Technology, Design, Building & Construction
Database Administrators	4,040	138	710	17.6%	\$69,388	Computers & Electronics, Customer & Personal Service, English Language
Medical Scientists, except Epidemiologists	1,780	87	510	28.7%	\$68,619	Biology, English Language, Mathematics
Biomedical Engineers	360	29	220	61.1%	\$79,236	Biology, Mathematics, Engineering, Technology

What are the Buckeye Top Fifty?

- The Buckeye Top Fifty are high-wage occupations in Ohio that are in demand by employers and are projected to stay in demand.
- The Top Fifty pay average annual earnings of more than \$59,600.
- Within each occupational cluster, occupations are ranked by the total expected annual openings.

Why do I care?

When considering a career, examine the number of current job openings, projected growth for the career, average wages and educational requirements. It is important to note that almost all of these high-wage jobs require postsecondary education and training.



For more information...

Visit Ohio Labor Market information on the web at <http://OhioLMI.com> or contact us at 1-888-296-7541 or 1-614-752-9494. To locate jobs in high-wage occupations, go to <http://OhioMeans.jobs.com>.

John R. Kasich, Governor
State of Ohio

Michael B. Colbert, Director
Ohio Department of Job and Family Services
Office of Workforce Development
Bureau of Labor Market Information

Ohio Department of Job and Family Services

Source: Jobs are based on growth trends in Ohio's 2008-2018 Occupational Projections. Included occupations were ranked in the top 200 projected new job openings per year for 2008-2018. Average annual earnings are from the May 2008 Occupational Employment Statistics survey in Ohio. Teacher earnings are by-year for 95% month-year. Lawyers in each group are ranked by total annual openings. Total annual openings are the sum of projected new job openings and replacement needs, generally due to retirements.

Appendix C

Buckeye Top Fifty UT Analysis		
Buckeye Fifty	Program	UT College
Accountants and Auditors	Accounting	College of Business and Innovation
Public Relations Specialists	Communications/Marketing	College of Business and Innovation
Computer Software Engineers, Applications	Computer Network Specialist	College of Business and Innovation
Financial Analysts	Finance	College of Business and Innovation
Real Estate Sales Agents	Finance (minor in Real Estate)	College of Business and Innovation
Personal Financial Advisors	Finance or Financial Services	College of Business and Innovation
Employment, Recruitment & Placement Specialists	Human Resource Management	College of Business and Innovation
Compensation, Benefits & Job Analysis Specialists	Human Resource Management	College of Business and Innovation
Network Systems & Data Communication Analysts	Information Systems	College of Business and Innovation
Computer Systems Analysts	Information Systems	College of Business and Innovation
Network and Computer Systems Administrators	Information Systems	College of Business and Innovation
Computer and Information Systems Managers	Information Systems	College of Business and Innovation
Database Administrators	Information Systems	College of Business and Innovation
Market Research Analysts	Marketing	College of Business and Innovation
Training and Development Specialists	Organizational Leadership and Management Human Resource Management	College of Business and Innovation
Public Relations Specialists	Communications Marketing	College of Communication and the Arts
Cost Estimators	Construction Engineering Technology	College of Engineering
Network Systems & Data Communication Analysts	Information Technology	College of Engineering
Computer Systems Analysts	Information Technology	College of Engineering
Network and Computer Systems Administrators	Information Technology	College of Engineering
Computer Software Engineers, Systems Software	Information Technology	College of Engineering
Computer and Information Systems Managers	Information Technology	College of Engineering
Database Administrators	Information Technology	College of Engineering
Biomedical Engineers	Biomedical Engineering	College of Engineering
Civil Engineers	Civil Engineering	College of Engineering
Athletic Trainers	Athletic Training Program	College of Health Sciences
Medical and Health Services Managers	Health Care Administration	College of Health Sciences
Occupational Therapists	Occupational Therapy	College of Health Sciences
Physical Therapists	Physical Therapy	College of Health Sciences

Respiratory Therapists	Respiratory Care	College of Health Sciences
Speech-Language Pathologists	Speech Language Pathology	College of Health Sciences
Market Research Analysts	Economics	College of Language Literature and Social Sciences
Mental Health Counselors	Psychology	College of Language Literature and Social Sciences
Physicians & Surgeons	Doctor of Medicine	College of Medicine and Life Sciences
Physician Assistants	Physician Assistant Program	College of Medicine and Life Sciences
Medical Scientists, except Epidemiologists	Biology	College of Natural Science and Mathematics
Registered Nurses	Undergraduate Nursing	College of Nursing
Pharmacists	Pharmacy Doctorate	College of Pharmacy and Pharmaceutical Sciences
Mental Health Counselors	Counselor Education	College of Social Justice and Human Service
Paralegals and Legal Assistants	Paralegal	College of Social Justice and Human Service
Mental Health & Substance Abuse Social Workers	Counselor Education Social Work	College of Social Justice and Human Service
Medical and Public Health Social Workers	Social Work	College of Social Justice and Human Service
Instructional Coordinators	Curriculum and Instruction	Judith Herb College of Education

Appendix D

Fall 2017 University Student Profile

Student Demographic	Entering		Returning		Transfer		Total	
	#	% of Total	#	% of Total	#	% of Total	#	% of Total
Total	3,220	19.90%	11,935	73.90%	1,000	6.20%	16,155	100%
Enrolled Part Time	63	2.00%	2,839	23.80%	222	22.20%	3,124	19.30%
Not Degree/Certificate Seeking	2	0.10%	1,060	8.90%	19	1.90%	1,081	6.70%
Financial Need - Pell Eligible	1,285	39.90%	3,822	32.00%	468	46.80%	5,575	34.50%
Remedial Education Needs	1,135	35.20%	3,216	26.90%	202	20.20%	4,553	28.20%
Female	1,604	49.80%	5,869	49.20%	476	47.60%	7,949	49.20%
Male	1,616	50.20%	6,065	50.80%	524	52.40%	8,205	50.80%
Age 18-24	2,955	91.80%	9,157	76.70%	709	70.90%	12,821	79.40%
Age 25 and Older	33	1.00%	1,614	13.50%	261	26.10%	1,908	11.80%
Ohio Resident	2,461	76.40%	9,173	76.90%	666	66.60%	12,300	76.10%
High School-to-College Factors								
Average High School GPA	3.39		3.41		2.98		3.39	
Average ACT or SAT	22.9		23.3		20.8		23.1	
Race / Ethnicity								
<i>American Indian / Alaskan</i>	5	0.20%	14	0.10%	3	0.30%	22	0.10%
<i>Asian</i>	64	1.70%	261	2.20%	21	2.10%	346	2.20%
<i>African American / Black</i>	405	13.30%	1232	10.30%	145	14.20%	1,782	11.10%
<i>Hispanic</i>	214	5.00%	594	5.00%	36	3.50%	844	5.30%
<i>International</i>	68	3.70%	769	6.40%	139	13.60%	976	6.10%
<i>Native Hawaiian or other Pacific Islander</i>	2	0.10%	8	0.10%	0	0.00%	10	0.10%
<i>Multi-racial</i>	158	3.90%	357	3.00%	32	3.10%	547	3.40%
<i>White</i>	2,165	67.40%	8,277	69.40%	576	56.50%	11,018	68.60%
<i>Race/ethnicity not reported</i>	139	4.70%	423	3.50%	48	4.70%	610	3.80%