

THE UNIVERSITY OF AKRON

RESOLUTION 6-10-18

Proposed Update of Ohio Revised Code 3345.81

BE IT RESOLVED, That the recommendations presented by the Academic Issues & Student Success Committee on June 13, 2018 to update The University of Akron Strategic Completion Plan be approved.



M. Celeste Cook, Secretary
Board of Trustees



Ohio Revised Code 3345.81 Strategic Completion Plans

Each public college and university was required to submit a campus completion plan that was approved by their board of trustees to the Chancellor by June 30, 2014. Completion plans were intended to help institutions to identify and implement strategies designed to increase the number and percentage of students earning meaningful postsecondary credentials. Current legislation calls for each institution to update their completion plan and submit to the Chancellor by June 30, 2016. The most current legislative language includes:

3345.81 Strategic completion plan.

“Not later than June 30, 2014, the board of trustees of each institution of higher education, as defined by section 3345.12 of the Revised Code, shall adopt an institution-specific completion plan designed to increase the number of degrees and certificates awarded to students. The plan shall be consistent with the mission and strategic priorities of the institution, include measurable student completion goals, and align with the state’s workforce development priorities. Upon adoption by the board of trustees, each institution of higher education shall provide a copy of its plan to the chancellor of higher education.

The board of trustees of each institution of higher education shall update its plan at least once every two years and provide a copy of their updated plan to the chancellor upon adoption.”

As with the initial completion plans, updates to the completion plans are intended to be a continuous improvement document that is owned by the institution’s faculty, staff and board of trustees. As each completion plan is specific to the mission and priorities of each institution, there is not a mandatory template that has been developed by the Ohio Department of Higher Education. When campuses are updating their plans, please address the following:

- 1) Progress toward goals established in the initial completion plan; and
- 2) Updated student completion goals with metrics for the two-year period between July 1, 2016 and June 30, 2018. Please give consideration to the following:
 - a. Indication of how students will be advised on pathways to graduation and careers (from recommendation by Ohio Task Force on Affordability and Efficiency in Higher Education);
 - b. Attention to outcomes for adult students over age 25 (from recommendations by the Ohio Board of Regents in the 8th report on the Condition of Higher Education); and
 - c. Alignment to the state’s workforce development priorities (from the legislation).

THE UNIVERSITY OF AKRON

University Retention and Completion Plan

UNIVERSITY MISSION

The University of Akron, a publicly assisted metropolitan institution, strives to develop enlightened members of society. Offering comprehensive programs of instruction from associate through doctoral levels; pursues a vigorous agenda of research in the arts, sciences, and professions; and provides service to the community. The university pursues excellence in undergraduate education and distinction in selected areas of graduate instruction, inquiry, and creative activity.

STUDENT BODY PROFILE

The University offers many programs from associate degrees to baccalaureate degrees of varying competitiveness, to world-ranked graduate programs. For students seeking bachelor's degrees, college preparedness has been increasing as the University has put in place Pathways for Student Academic Success, a multi-year strategy beginning in fall 2012, to guide students to the academic path best suited to their needs.

Total UA enrollment for fall 2017 was 22,104: 18,802 undergraduates, 3,302 graduate and professional.

- Full-time students made up 74% of the student body; part-time students, 26%.
- Ethnically underrepresented (African American, American Indian, Asian American, Hispanic American, Native Hawaiian, and two or more races) students made up 19 percent of the student body.
- Adults (25 years and older) made up 13% of the undergraduate population.
- First-generation students represented approximately 31% of undergraduates (34% of first-time freshman).
- 75% of new, bachelor degree-seeking freshmen entered UA with a “college-ready” profile (ACT 21 or higher; HS GPA 3.0 or higher).
- 34% of our undergraduate students were Pell eligible. (44% of first time freshman).
- Students who are both Pell eligible and First Generation make up 14% of the full-time population and 11% of the part-time population.

The faculty and staff at The University of Akron value student development and academic success above all other goals. As a metropolitan university, Akron is experiencing many of the

challenges that higher education faces today, particularly for public institutions that are inclusive in nature.

The retention and completion strategies selected for this document have been chosen based upon the following principles:

1. Accepts a broad range of student-preparedness levels
2. Strives for inclusive excellence to support a very diverse population of students
3. Strengthening admissions criteria at a gradual pace in response to low completion rates of severely underprepared students
4. Increased focus on retention and completion with particular attention to the student's first year, where most attrition occurs
5. Development and Implementation of specific strategies selected based upon best practices and literature review of student development and persistence for the diverse population of students we serve.

BARRIERS TO PERSISTENCE AND COMPLETION

1. Pell Eligibility

The University's large percentage of Pell-eligible students faces particular challenges in both the transition to and persistence through college. Approximately 34% of our students are Pell-eligible attendees. The retention and completion goals of this plan offer a clear vision for improving student academic success and eliminating the aforementioned barriers to completion at the University, with great attention to this group of students.

2. First Generation

The University's large percentage of first-generation students faces particular challenges in both the transition to and persistence through college. Approximately 31% of our students are first-generation college attendees. Throughout this plan, several engagement strategies will be outlined to increase first-year retention, persistence to degree and career placement that are designed to meet the specific needs of this sector.

3. Academic Preparedness

About 22% of all first time freshmen require at least one remedial course. In fall 2017, 22% of entering bachelor's degree-seeking, full-time freshmen, on the main campus, were below the college-ready level (ACT 21 or higher; HS GPA 3.0 or higher). Our general education mathematics requirement, which includes at a minimum the mastery of core statistical concepts, quantitative reasoning or college algebra, presents a significant challenge for our students.

Between 2015 and 2017, on average, nearly 14% of our entering freshmen were required to take a remedial course in math. In addition, over 20% are required to repeat at least one mathematics course during their academic career.

4. Part-time Enrollment

Over 4,500 of our students attend part time and many juggle work and family responsibilities. In Ohio, part-time students seeking a bachelor's degree have eight-year graduation rates less than 15% . This measurement does not include the challenges in timely degree completion and accurate tracking for students who earn credits from several institutions.

5. Financial Literacy and Management

Because we have many students who are Pell Grant eligible and first generation in their families to seek post-secondary education, they arrive to the University with limited financial literacy skills. The challenges here are most apparent with regard to financial aid regulations and the availability of refunds for college related expenses. It is evident that we must provide education and support to these students to enhance and enrich their financial literacy skills so as to forestall potential issues with loans and repayment at a later time.

PROGRESS TOWARD INITIAL RETENTION AND COMPLETION GOALS

Our retention and completion goals for 2016-2018 were met with moderate success and will continue to be fundamental goals.

1. The first-year retention rate goal of 72% was exceeded by one point. As of fall 2017, the first-year retention rate is 73% (first-time, full-time Akron Campus bachelor's-degree seeking students);
2. Although the six-year graduation rate goal was 42%, the current six-year graduation rate is 44%, slightly above the range for the previous ten years (first-time, full-time Akron Campus bachelor's degree seeking);
3. The job/graduate school placement rate goal of 75% was exceeded by two points. As of fall 2017, the job/graduate school placement rate is 77% (bachelor's degree recipients), and
4. To date, the development of a strategy to reduce student cohort achievement gaps, particularly in first-year retention, remains a priority.

RETENTION AND COMPLETION GOALS FOR 2018-2020

Our retention and completion goals for 2018-2020 are both aggressive and realistic.

1. Develop and implement a college-centered academic advising model;

2. Develop and implement the Akron Guarantee Scholarship, guaranteeing yearly renewal to those in good academic standing, and even greater financial support through automatic yearly updates;
3. Increase efficiency in degree completion through revised class scheduling process; and specifically offering course options during times when students need them;
4. Develop and implement a “Five-Star Friday” and “Four-Day Core” scheduling to give students more flexible learning opportunities, with classes Mondays through Thursdays, and on Fridays participate in cooperative education, internships, co-curricular activities, research, lab work, community service, advising, tutoring, and more;
5. Be purposeful in addressing the needs of underrepresented students through intentional support including supplemental academic advising, learning communities and study tables, and other strategic initiatives;
6. Revise the Akron Experience first-year seminar course to align with degree-granting college missions; and
7. Develop and implement more robust outreach programming related to financial responsibility and financial management/budgeting. (Courses like Foundations of Personal Finance and recent partnership with United Way’s Financial Empowerment Center are first steps in this goal).

RETENTION AND COMPLETION STRATEGIES

1. Pathways to Student Academic Success

Guiding students to the academic pathway that will contribute most to their success is paramount to providing a strong Akron experience. The need for the Pathways strategy was evident in the data collected at the University, as it was found that the most underprepared students (ACT<17 and HS GPA<2.5) had less than a 10% chance of obtaining a bachelor’s degree in six years. The Pathways strategy addresses the varied student preparedness levels by offering different entryways with tailored academic support.

The Inclusive Pathways approach addresses college preparedness on the basis of several academic indicators, and identifies students according to their preparedness levels: College-ready and Emergent.

College-ready students (both directly admitted to an academic program of study, and those of higher preparedness who need to fulfill additional requirements at the institution as a pre-admission student)

- Pathway admission based upon a sliding scale by high school coursework, high school

grade point average, and standardized test scores (ACT/SAT). Students admitted with a higher academic profile are admitted directly to their academic program of study.

- Demonstration of high achievement throughout high-school and ready to pursue academically challenging coursework that leads directly to degree completion.

Emergent students

- Pathway admission based upon a sliding scale by high school coursework, high school grade point average, and standardized test scores (ACT/SAT).
- High school GPA demonstrates the ability and desire to achieve through personal effort, benefitting from admittance as pre-majors and the receipt of intentional, intensive, and if necessary, intrusive support for major readiness.

Our fall 2017 first-time, full-time (FTFT), bachelor's degree-seeking students had an average ACT of 23.1 and a 3.48 high school grade point average. With a strategic focus on the pathways strategy, the University remains focused on increasing first-year retention and six-year graduate rates. To help improve retention and graduation rates, the Ohio Mathematics Initiative pathway plan is in use including Algebra for Calculus and Pre-Calculus for STEM majors, a statistics course for those who need it (health professions, for example) or a quantitative reasoning course for all other students.

Students previously admitted under the Preparatory pathway are now admitted to our Wayne College, where they would maintain their status until successful completion of 24 credit hours in good standing and successful completion of all remedial coursework. At that time they are invited to join the main campus in full-standing. They are also invited to attend a community college in good standing and to then apply for a transfer Akron Guarantee Scholarship upon successful completion of 12 credit hours with a cumulative college grade point average of a 3.0 or higher.

2. Intentional Academic Advising

Academic advising transitioned from a central model to one within the college of each student's academic major. This is in alignment with research identifying the importance of early and intentional engagement within a college. The move to decentralize advising follows a successful pilot in the College of Business Administration, where Emergent and College-Ready students who engaged early their first semester with the CBA were retained at a rate 10% higher than similar students advised centrally. The reorganization has also resulted in development of an Exploratory Advising center for truly undecided majors to move students

intentionally to a major and degree-granting college within their first year on campus. First year students at Akron and regional campuses must attend advising appointments. Augmenting this plan, we will continue to offer supplemental intentional academic advising through our office of Multicultural Development and the Choose Ohio First STEM Program.

3. Akron Guarantee Scholarship

The University developed the Akron Guarantee Scholarship for new freshman students entering the Fall 2017 class, guaranteeing annual renewal so long as the student remains in good academic standing (a 2.0 GPA). The scholarship also includes automatic yearly upgrades as you earn 30, 60, and 90 credits, totaling up to \$3500 and providing a larger, total eight-semester scholarship than a traditional scholarship. The Akron Guarantee Scholarship was created as a retention tool providing financial support to a greater range of undergraduate students, and also to increase their chance of graduating in four years with less debt. The program was further enhanced for Fall 2018 by providing the Akron Guarantee Scholarship to transfer, adult, and returning (not attending any other college/university for three or more years) students.

4. Early Alert Initiatives

Interim Progress Reports

- Research has demonstrated that the earlier students have contact with full-time faculty, the more likely they are to remain in school and succeed. The combination of full-time faculty contact with professional advisor and staff guidance and intervention, will improve retention and persistence. Although faculty and staff contact take many forms, measureable feedback in relation to student progress includes the use of early-term progress reports, primarily for the 100- and 200-level courses, where faculty enter satisfactory or unsatisfactory indicators during the second to fifth week of the term. With this information, degree-granting colleges and other advising units are able to pull reports from the system to outreach to those students identified at-risk for failing a course(s). Outreach includes email and telephone calls to invite students in to discuss interventions to create success toward those courses. Interventions include tutoring, office hours, additional academic advising appointments, and additional resources such as counseling.

Help-A-Zip and ZipAssist

- The Help-A-Zip referral program was put in place in Fall 2015 to provide resources for students who are facing distress or are in jeopardy of leaving the University. Faculty, staff,

parents, community members, peers, and students themselves can make a referral to ZipAssist on behalf of an enrolled student. A team of campus experts are then assigned to assist students with navigating University resources and finding needed services. Referrals are typically made for the following areas of concern: academic, personal/social, mental health, tuition/fees, emergency financial, and textbook assistance.

5. Student Emergency Financial Assistance (SEFA)

In May 2017 the University was selected as a national recipient of a \$660,000 grant provided by the DASH Emergency Grant, supported by the Great Lakes Higher Education Corporation & Affiliates. The grant, now called the Student Emergency Financial Assistance (SEFA) program on campus, provides emergency assistance for undergraduate students facing an unexpected hardship. Through a referral system, students work with Zip Assist staff to determine eligibility and resources available, both on campus and within the community. The program is aimed at supporting low-income students with an Expected Financial Contribution of \$7,000 or less. The maximum grant a student can receive (one-time grant period, 2017-2019) is \$1,000 towards non-tuition related expenses.

6. Retention and Completion Grants

The retention and completion grant program targets a group of academically eligible students at risk for attrition. Specifically targeted are students who (a) are at risk for being dropped for non-payment prior to the beginning of each semester; (b) have completed at least 15 credits in good academic standing; (c) are Pell eligible; and (d) have unpaid balances that typically total less than \$2,000. Our research suggests the top two reasons students stop out of college are financial and personal issues. Additionally, as is the case at institutions across the nation, a majority of UA students who are dropped from classes for non-payment are in good academic standing and simply cannot return due to finances.

7. First-Year Student Success Seminar

The University offers a student success course, The Akron Experience: University 101, that combines topics related to first-year experiences with career-planning elements to engage students early. The Akron Experience: University 101 is required of all new baccalaureate degree-seeking freshmen admitted on the emergent pathway. College-ready students are strongly encouraged to participate in this course. This course has further developed through the identification of clear, first-year student learning outcomes. The course has moved toward clear connections with the degree-granting college in which a student is majoring in, allowing for exploration of major and career paths within those colleges, and access to those wrap

around services provided by the colleges. The course has further developed within the Learning Communities program through addressing the pertinent areas of campus resources, building academic and non-cognitive skill sets, and enhancing the theme that the specific Learning Community is a part. Academic programs had developed specific orientation courses to enhance successful student transitions.

8. Expanded Learning Communities

Students participating in learning communities engage in structured learning experiences that foster connections with their peers, establish relationships with their faculty members and academic advisors, as well and enable them to form positive connections to the campus community. Utilizing the information gathered from these experiences enable us to identify what aspects of the learning communities influence retention. The UA data indicate that the learning community structure shows much promise in increasing first-year retention rates, with current success at 78%.

Moving forward, faculty teaching in learning communities will work in collaboration to increase integration across the curricula and provide experiences that promote both the academic and social integration of first-year students. In addition, a more comprehensive assessment of the program will include qualitative data from participating faculty with assessment of first semester persistence, as well as, first-year retention, GPAs and overall student satisfaction for all student participants.

9. Alternative Forms of Credit

Decreasing the time to degree completion is a top priority, and several initiatives are currently in place. College Credit Plus, Advanced Placement, Career-Technical Credit Transfer, Akron Early College High School, CLEP, credit by exam, International Baccalaureate and military training and experience can be used to allow a student to complete a bachelor's degree in just three years. In 2016-2017, over 4,000 students were awarded more than 45,000 semester credit hours.

10. Decrease Number of Credit Hours to Degree Completion

The University of Akron is working diligently to streamline graduation requirements so that most bachelor's degree programs can be completed in as few as 120 semester credit hours and associate degree programs can be completed within 60 semester credit hours, without compromising accreditation requirements.

	Semester Credit Hours Required for Degree Completion	Number of Programs	Percentage of Programs
Bachelor's Degree Programs	127-152	113	49.13
	121-126	14	6.09
	120	103	44.78
Associate Degree Programs	66-72	8	15.09
	61-65	19	35.85
	60	26	49.06

11. Mentoring Services: Academic mentoring occurs throughout programs and majors including study, career and research components. In addition several supplemental programs exist including:

Peer Mentoring

- Coordinated through the Office of Multicultural Development, provides peer mentors for nearly 300 historically underrepresented first-year students each year. Peer Mentors are successful sophomores, juniors and seniors who have demonstrated the ability to relate well with first-year students from varied ethnic, social and cultural backgrounds. They serve as role models who lead and support incoming first-year students by setting a positive academic example, encouraging mentees to make good decisions and to utilize campus resources that include tutoring, counseling, meeting with their academic advisors and faculty members, and getting involved with campus activities, etc..

Peer Advisors for Veteran Education (PAVE) Program:

- Peer Advisors for Veteran Education (PAVE) Program is a collaborative peer support program between University of Michigan Depression Center & Department of Psychiatry and Student Veterans of America. PAVE connects incoming Student Veterans with student veterans already on campus in order to help them navigate college life, identify challenges, and refer them to the appropriate resource on or off campus. Through this true peer-to-peer program, tailored for Military and Veterans at The University of Akron, we aim to provide support to their academic and personal goals by fostering a sense of connectedness to the university, identifying concerns, and connecting student veterans with appropriate resources. Our Peer Advisors are members of The University of Akron Military community, who are not only

knowledgeable about resources available, but the understanding of the challenges unique to Veterans as they transition from Military to Campus life.

12. Learning Assistant Program

The learning assistant program is designed to help students succeed in the traditionally difficult courses that tend to be the “gateway” courses (mostly mathematics and science classes) to successfully completing the degree program. Compared with students who do not have learning assistants, students with learning assistants earn three to four more credits per semester, are less likely to drop courses and have a greater chance in successful course completion.

13. Institute for Teaching and Learning

ITL’s mission is to support faculty in their teaching, which is central to student retention and success. ITL provides training for frontline faculty: incorporating LMS best practices for student engagement and retention; assessing student learning outcomes; maintaining test integrity in a variety of learning situations; understanding racial bias in the classroom; and designing and incorporating experiential learning in the classroom as examples. All of these strongly affect student success and retention. ITL has granted ten summer mini-grants for faculty to develop course materials that improve students’ information literacy, a general education outcome required in most programs across campus. All new tenure track faculty are required to participate in the New Faculty Learning Community. Under the leadership of senior faculty, new faculty will meet once a month as a group to cover a variety of topics such as classroom assessment techniques, experiential and service learning, responses to challenging classroom situations, among others. Each new instructor will also be paired with a mentor, who will work closely to give feedback on teaching and pedagogy.

14. Career Services for Students and Graduates

Career Services provides career guidance and opportunities that lead to retention and persistence to graduation, and fulfilling career goals upon graduation. Career development leading to retention and persistence to graduation is encouraged through:

- Career advising which includes major and career exploration and job search opportunities.
- Use of the “Connecting UA Majors to In-Demand Jobs in Ohio Initiative” to help students explore majors and in-demand occupations which provide the most job opportunities upon graduation, and to help bridge the workforce gap in Ohio.
- Preparation for and connection to experiential learning opportunities necessary for

career placement.

- Development of career readiness skills.
- Career goal setting through identified “career checklists” from freshman year to graduation.
- Participation in networking opportunities with employers which leads to job placement upon graduation.
- Graduate school planning.

The University of Akron surveys spring graduates of undergraduate programs to determine their career outcomes. 82% of graduates who earned a bachelor’s degree participated in at least one experiential learning experience before graduating. 77% of graduates who earned an undergraduate degree are employed full-time in their chosen field or position that requires a degree, or they are continuing their education (i.e. graduate school). By comparison, the National Association of Colleges and Employers reports that the national average is 75.4% for graduates employed full-time or continuing education.

14. Retention Analytics

In 2017, the University developed five dashboards to track performance. The five dashboards include dashboards: 1) Admissions (recruitment); 2) Enrollment; 3) Retention, Persistence, and Graduation; 4) State Share of Instruction (SSI); and, 5) Scholarship. Campus implementation included the identification and training of identified “super users”, those at the college and department level with whom members of their teams may utilize to access information for measurement of trends used to create intentional initiatives leading to increased retention and graduation of our undergraduate student body.

Retention and Completion Metrics

Metrics have been developed and separated into two general categories: general retention and completion metrics that will be reported for various bachelor’s degree-seeking student cohorts, and initiative specific metrics. The student cohort groups will include remedial, at risk pre-majors (ACT 17 or below and high school GPA of 2.5 or below), bottleneck Nursing and Engineering pre-majors, college-ready pre-majors (ACT 21 and a 3.0 high school GPA), first generation, Pell eligible, African American, Hispanic, adults 25+ years, learning communities and international.

General Retention and Completion Metrics:

- First-semester retention

- First-year retention
- Percentage of full-time students completing 15+ credit hours per semester
- Percentage of full-time students completing 30+ credit hours in the first year
- Percentage of pre-majors matriculated into majors at 30 and 48 credit hours

WORKFORCE DEVELOPMENT PRIORITIES

The University of Akron has over 30 programs that align with the nine JobsOhio key industries. An important ingredient to the success of the programs includes opportunities for students to engage in internships and co-op experiences. About half of the 30 programs have a required internship or co-op component. We will focus on increasing these opportunities for students, as our data indicate the positive impact on career placement. One example includes the successful hiring rate of co-op students; 50% of our students are hired by their co-op employer. Below is a just a small sampling of degrees offered at The University of Akron that align with each industry.

Advanced Manufacturing

Manufacturing Engineering Technology

This application-oriented program provides the solid technical foundation necessary to work in computer-based manufacturing.

- Degree prepares students to work and communicate with engineers, scientists and production personnel
- Core curriculum covers such topics as:
 - work measurement
 - manufacturing computer applications
 - quality control
 - robotics
 - manufacturing work cells
 - lean manufacturing

Aerospace and Aviation

Aerospace Systems Engineering

This program, among the first of its kind, is designed to train engineers to become future project managers and program managers for the aerospace industry with either integrator or supplier

companies. The rigorous curriculum offers a unique blend of courses in mathematics and science, business and systems, and mechanical and aerospace engineering.

Mechanical Engineering

The undergraduate mechanical engineering program is designed to provide the student with comprehensive knowledge of the fundamental principles of all aspects relating to fluid-thermal and mechanical sciences and the application of these principles to pertinent problems. A large number of corporations and industries throughout the country participate in the department's five-year cooperative education program. This program gives students on-the-job experience in an industry directly related to their studies.

The undergraduate curriculum can be divided into four main areas: general studies requirements (29 semester credits), mathematics and science requirements (30 credits), engineering requirements (66 credits), and electives (12 credits). In addition to the regular program, students also may choose a program with special emphasis in polymer science and polymer engineering or motion and control. In this option, all mechanical engineering electives are replaced by appropriate electives in polymer science and polymer engineering or motion and control. Students also may use technical and free electives for this option.

Automotive

Corrosion Engineering

UA has launched the nation's first baccalaureate program in corrosion engineering. The program incorporates a multidisciplinary curriculum to train students to understand the origins of corrosion and manage its effects. Corrosion engineering requires a broad knowledge and cuts across many disciplines. Students receive instruction in:

- chemical engineering
- mechanical engineering
- civil engineering
- electrical engineering
- physics
- modeling

Along with a multidisciplinary approach that emphasizes strong science and engineering principles, the program integrates a strong management component to help our students develop the skills that are necessary for executing "real world" projects.

Biohealth

Biomedical Engineering

Biomedical engineers study and perform research on the engineering aspects of biological systems to create new devices and procedures to improve health and quality of life. Our program allows undergraduate students to specialize in biomechanics, biomaterials and tissue engineering, or instrumentation, signals and imaging.

Biology

Biology is the fastest-growing field of science today - its impact is carried to many fronts - medicine and health care; the environment and climate changes; global population and food sources. Core courses provide the fundamentals of modern biology (e.g., principles of biology, evolution, ecology, cell and molecular biology, genetics)

- A student can earn a bachelor of science degree with a major in biology or natural sciences, and within these programs you will be able to choose such courses as:
 - neurobiology
 - anatomy
 - medical histology
 - cell biology/physiology
 - ecology and evolution
 - molecular biology
 - genetics
 - biology of behavior
 - comparative biomechanics
 - medical microbiology
 - human and animal physiology
 - aquatic biology

Coursework will prepare students for professional schools, such as medical, dental, veterinary and pharmacy. In collaboration with the LeBron James Family Foundation College of Education, our department also prepares students to teach high school biology. Internship opportunities are available in the local community.

Energy

Geology

Geology is the study of Earth's materials, structures and processes and how they've changed through time. This knowledge may be applied to exploration for natural resources, including metals, petroleum and water; understanding natural hazards such as earthquakes, volcanoes and landslides; addressing problems associated with environmental contamination; and investigating Earth's history to understand the evolution of life and global climate change. Geologists are employed by natural resource companies, environmental consulting firms, government agencies, nonprofit organizations and universities.

Core courses provide the fundamentals in:

- physical and historical geology
- mineralogy and petrography
- structural geology and plate tectonics
- sedimentology, paleontology and stratigraphy

Degree program can be tailored to a major field of interest by taking additional courses in the supporting sciences, mathematics and engineering fields.

Civil Engineering

Civil engineers plan and design large-scale projects like bridges and power plants, study and solve societal and environmental challenges like providing safe drinking water, and design and maintain transportation systems.

Our undergraduate program allows students to tailor their education toward specialties like structural, water resources and hydraulic, geotechnical, environmental and transportation. The graduate program is designed to be flexible enough to meet the needs of students with varied backgrounds and prepare them for a career in industry, government or academia.

Construction Engineering Technology

A degree in construction engineering technology prepares students for managerial positions in inspection, cost estimating, supervision and more.

- Core curriculum focuses on:
 - mathematics
 - physics
 - technical drawing
 - communications
 - construction concepts and principles

Electrical Engineering

Every aspect of modern life is influenced by electrical engineers. They design and develop systems ranging from massive power grids and global communications networks to tiny integrated circuits inside computers and personal electronics. Branches of electrical engineering include:

- communications
- controls
- electromagnetics
- electronics
- power systems

Important applications include:

- power generation and distribution
- sustainable energy systems
- manufacturing automation
- aerospace systems
- robotics
- sensors and instrumentation
- imaging systems

Financial Services

Financial Management

Today's business environment increasingly requires efficient management of firm assets. The Financial Management major trains students in the art and science of efficiently managing money. Students learn financial principles:

- The time value of money
- Financial ratio analysis
- Working capital management
- Valuation
- Security analysis and portfolio management
- Capital planning

Financial Planning

Financial planners do what many people don't like doing for themselves: Determine the best way to manage their money. By meeting with clients to help them determine:

- Budgeting plans
- Investment decisions

- Insurance needs
- Estate and retirement planning
- College funding and other financial decisions

In addition, planners often advise clients on personal goals such as buying a home or retiring. Many financial planners start their careers by working for larger financial-services firms, but about one in four eventually work for themselves, often building up expertise in specific areas, such as retirement planning or financial planning for small business owners.

Students can enhance their professional credentials by completing educational requirements toward the Certified Financial Planner (CFP) designation.

Risk Management and Insurance

A degree in Risk Management and Insurance (RMI) trains students to identify, analyze, and manage financial and operational risks that are inherent in both personal and business settings.

The RMI major prepares students for employment in three major areas:

- An insurance company career, working to create and service insurance products for individuals and businesses.
- The risk management profession. The risk manager of a company anticipates possible losses and develops a plan to survive the risks.
- Insurance agency work, which involves selling and servicing of insurance products.

Students can enhance their professional credentials by completing educational requirements toward the following certifications:

- Property/Casualty and Life/Health Insurance Licenses-Approved pre-licensing education for insurance licensing. Students can earn certificates to sit for the State of Ohio insurance exams when meeting attendance requirements in designated courses.

University Associate Certified Insurance Counselor (UACIC) – Students can earn the UACIC certification by successfully completing the coursework and exam required by the National Alliance for Insurance Education.

Accounting

Accountants provide an array of financial services to businesses, nonprofit corporations, governments, industry and even private citizens. The curriculum is based on broad theoretical principles and applied practices. Study includes:

- core business fundamentals such as finance, marketing, management principles, operations management, quantitative business analysis, business law and strategy
- financial reporting
- cost management
- accounting transaction cycles and business processes
- business risk, internal controls and auditing
- information systems risk, security, controls and assurance
- taxation

The School of Accountancy's undergraduate accounting degree prepares students to pursue such certifications as certified public accountant (after completing the state-mandated 150 semester hours of college credits), certified management accountant, certified internal auditor, and certified information systems auditor. We offer an Accelerated B.S./M.S. in Accounting degree as a seamless path toward obtaining the 150 semester credit hours needed to sit for the certified public accountant examination.

Economics

Economics is the study of how society, businesses, organizations and individuals produce, exchange, buy and sell goods and services. A Bachelor of Arts in Economics earned at The University of Akron prepares students for careers in the field through:

- Core courses in theory, quantitative and computer methods
- Development of analytical and problem solving skills
- A program tailored with electives geared toward a particular career track in:
 - business
 - banking and international economics
 - public policy
 - graduate school

Information Services and Software

Information Systems Management

Information Systems professionals perform the technology-related activities of companies. They perform a variety of duties, from constructing detailed business plans to overseeing network and Internet operations. Working with upper management, they define the technical goals of the company and plan how to accomplish these goals. In addition, they maintain corporate Web sites, analyze the information needs of organizations, and supervise systems analysts, programmers, technical support and other employees. An undergraduate degree in information

systems will prepares students to pursue an exciting career as an information systems professional. The degree will also prepares students for further graduate study or technology specific certifications.

Computer Engineering

In addition to traditional large computer applications, devices containing some form of embedded computing system are becoming pervasive in our society. Computer engineers design and develop hardware and software for all of these systems, ranging from software applications to communication networks to components in computing systems to small embedded sensors. Branches of computer engineering include:

- operating systems
- embedded systems design
- digital circuits
- algorithms
- software design
- computer architecture

Important applications include:

- wired and wireless networks
- simulation
- automation
- digital control
- sensing
- robotics
- “apps,” data management

Our comprehensive curriculum prepares students to identify, formulate and execute solutions to real-world problems. Students learn how to use modern engineering tools in well-equipped laboratories, with activities that reinforce the concepts learned in the classroom. The curriculum emphasizes design and teamwork, and culminates in a capstone senior design project that integrates the material learned in earlier courses. Our well-established co-op program enables students to strengthen the connections between theory and practice in a professional setting, and provides valuable industrial experience.

Polymers

Chemistry

The department of Chemistry offers 4 undergraduate degrees as well as a minor in chemistry. The Bachelor of Science degrees in Chemistry and Chemistry with Polymer option offer greater concentration in chemistry and are accredited by the American Chemical Society. The B.S. in Biochemistry bridges the chemistry and biology disciplines and adheres to the standards established by the American Society of Biochemistry and Molecular Biology. The B.A. degree allows students sufficient time to minor in another subject. Useful minors include biology, business, or a foreign language.

Chemical Engineering

Chemical engineering requires a broad knowledge of science to solve problems involving the production or use of chemicals, improving the environment and making energy conversion more efficient.

- Core curriculum includes mathematics, science and chemical engineering fundamentals.
- Focus on practical aspects of engineering, including:
 - how to design and cost manufacturing plants
 - analyze and interpret experimental and production data
 - how chemical processing affects people and the environment