



Eastern Kentucky University is a nationally recognized public university located in Richmond, Kentucky. EKU began offering online degrees in 2006 and continues to service students with both on-campus and online offerings.

BENEFITS

- Accelerated 8-week terms
- Free textbooks for all students with [EKU BookSmart](#)
- IFSAC-accredited programs
- Accredited by the Engineering Technology Accreditation Commission of ABET, [abet.org](#)
- Nationally renowned instructors comprised of former fire chiefs, fire marshals, engineers and investigators, prominent for their professional achievements and success in the field
- Courses begin 6 times per year
- Generous credit transfer policy
- [Reduced tuition for active duty military members and their spouses](#)
- No campus visits required
- Personal advisors stay with you from application to graduation
- Free online tutoring and career services assistance
- Dynamic, supportive learning environment
- Ranked by *U.S. News & World Report* among the best universities offering online degrees

521 Lancaster Ave.
Richmond, KY 40475

859-622-4455 | onlinedegrees@eku.edu

Fire Science Bachelor of Science in Fire Protection & Safety Engineering Technology

EKU is one of only a handful of colleges and universities in the nation to offer a comprehensive fire protection and safety engineering technology degree. This unique program prepares you to use your knowledge of fire prevention and suppression to design and recommend equipment to assist organizations in safeguarding life and property against fire, explosion and related hazards.



ONLINE



\$443 PER
CREDIT HOUR

OTHER FIRE SCIENCE DEGREES & CERTIFICATES

- [BS Fire, Arson & Explosion Investigation](#)
- [BS Fire Protection Administration](#)
- [Certificate in Industrial Fire Protection](#)



[Fire Protection & Safety Engineering Technology](#)

CORE COURSES

Fire Prevention - FSE 101

An introduction to fire and safety related codes; fire prevention methods; mechanical systems; and engineering solutions for hazards. An in-depth look at the Life Safety Code, the function and testing of fire related building components.

Fire Behavior and Combustion - FSE 120

Introduction to the chemistry and dynamics of fire; including basic terminology and concepts that are applied to the physical and chemical properties of the development and spread of fire in a structure; hazardous materials and the Computer Fire Analysis.

Fire Detection and Protection Systems - FSE 221

Introduction to fire detection, protection, control systems and extinguishment. Fixed and portable systems of the following types will be studied: automatic sprinklers, standpipes, dry chemical, foam, halogenated agents, fire alarm systems and diction.

Human Behavior In Fire - FSE 224

Examine current and past research on human behavior, systems models, life safety education and building design to determine interactions emergency situations. Develop a best practice building life safety system.

Technical Report Writing for Emergency Services - FSE 300

Develop oral and written communication skills specific to the public emergency service sector's needs. Focusing on the technical aspects involved in supporting public initiatives operating within the legal system and learning the specific requirements for submitting documentation to various technical committees.

Hazardous Materials - FSE 305

Study of hazardous material problems in transportation, storage and use. Chemical properties relating to specific reactions, engineering controls and control in an emergency situation. Emphasis on the role of pre-emergency planning, combating, coordinating and controlling of hazardous materials incident.

Water-Based Fire Protection Systems Design - FSE 322

Analysis and evaluation of specific code requirements related to the design, inspection, testing and maintenance of water-based fire protection systems. Design projects will be included.

Applied Learning in Fire and Safety - FSE 349

Work in placements related to academic studies.

Fire Arson and Explosion Investigation - FSE 350

An in-depth study in the analysis of fire, arson and explosion scenes. Emphasis will be placed on the principles and techniques of scene preservation and analysis, management of investigative functions, documentation of the scene and determination of the cause and origin of fire.

Fire Dynamics - FSE 355

An introduction to the fire-related measurement techniques, advanced fire and combustion concepts and associated terminology. This course includes basic numerical methods for understanding fire dynamics.

Fire Protection Hydraulics and Water Supply - FSE 360

A study of water at rest and in motion, Bernoulli's and Pascal's theorems; water distribution systems, velocity, friction loss, pump and nozzle pressures required for fire protection.

Advanced Structural Fire Protection - FSE 445

Examines principles involved in structural fire protection: behavior of materials and design considerations for each material in regards to a structure's design under fire attack and resistive protection methods.

Industrial Fire Safety - FSE 480

Fire scenario analyses for industrial installations using test data, loss experience and simplified theoretical modeling focusing on warehousing, storage of flammable liquids and safety of electrical equipment and computers.

Fire Protection Design - FSE 481

Comprehensive project emphasizing a team approach to the design process. Problem formulation; project management; drawings and specifications; cost estimating; and various project components. Engineering and professional ethics.

SUPPORTING COURSE REQUIREMENTS

Introductory Chemistry I/Introductory Chemistry Lab I - CHE 101/101L

Basic principles of structure and properties of matter, chemical nomenclature and reactivity. Relates chemistry concepts to everyday life phenomena.

Geographic Information Systems - GEO 353

Introduction to GIS principles, methods, operations, mapping, and applications. Topics include spatial data, databases, GIS analysis, models, site suitability, environmental and social applications, and more. Hands-on emphasis using ArcGis.

Statics and Strength of Materials - CON 303

Study of loads, forces and their effects on rigid bodies and structures at rest. Computation of equilibrium reactions, internal forces, shear, moments, couples, friction, stress, strain, and deformation. Finding centroids and moments of inertia.

Construction Structural Design - CON 322

A study of the design of beams and columns using steel and wood. Principles of structural design related to the design of temporary structures used in the construction process.

Calculus I - MAT 234

Functions, limits, and continuity, derivatives and applications, integration, and introduction to and use of the computer package Mathematica or other appropriate technology.

Calculus II - MAT 244

Fundamental integration techniques, numerical integration, applications of integration, improper integrals, differential equations, infinite series, polar and parametric equations, and use of Mathematica or other appropriate technology.

University Physics I - PHY 201

Composition and resolution of forces, laws of equilibrium, Newton's laws of motion, work and energy, momentum, simple harmonic motion, hydrodynamics, heat phenomena.

University Physics II - PHY 202

Electrostatics, electric potential, dielectrics, A.C. and D.C. circuits, magnetic fields, Faraday's Law, sound, wave motion, geometrical and physical optics.

Engineering Thermodynamics - PHY 375

Study of temperature, thermodynamic systems, ideal gases, first and second law of thermodynamics, Carnot cycle, Kelvin temperature scale, entropy, including thermodynamic analysis of engineering devices.

Computer Aided Drafting - AEM 195

An introductory course in freehand sketching and computer-aided drafting/design. Students will be taught basic CAD commands, tools, multi-view drawings and dimensioning techniques.

FREE ELECTIVES

CHOOSE 3 HOURS OF FREE ELECTIVES

A TOTAL OF 120 CREDIT HOURS REQUIRED

Additional requirements not listed include EKU's standard general education requirements.

EKU UNDERGRADUATE CATALOG

What can I do with this degree?

CAREER OUTLOOK

According to the United States Bureau of Labor Statistics (BLS) employment of health and safety engineers is projected to grow 4 percent by 2031. As buildings, products, and processes continue to become more complex and new regulations are created, these engineers will be needed to reduce costs, save lives, and produce safe consumer products. A bachelor's degree is required for most entry-level positions.

Job Opportunities Include:

- Fire protection & prevention systems designer
- Building inspector
- Fire safety director
- Insurance company consultant
- Industrial safety specialist
- Fire protection & safety engineer
- Fire protection technician & related occupations

[SALARY ESTIMATES](#)

Why should I choose ECU Online?

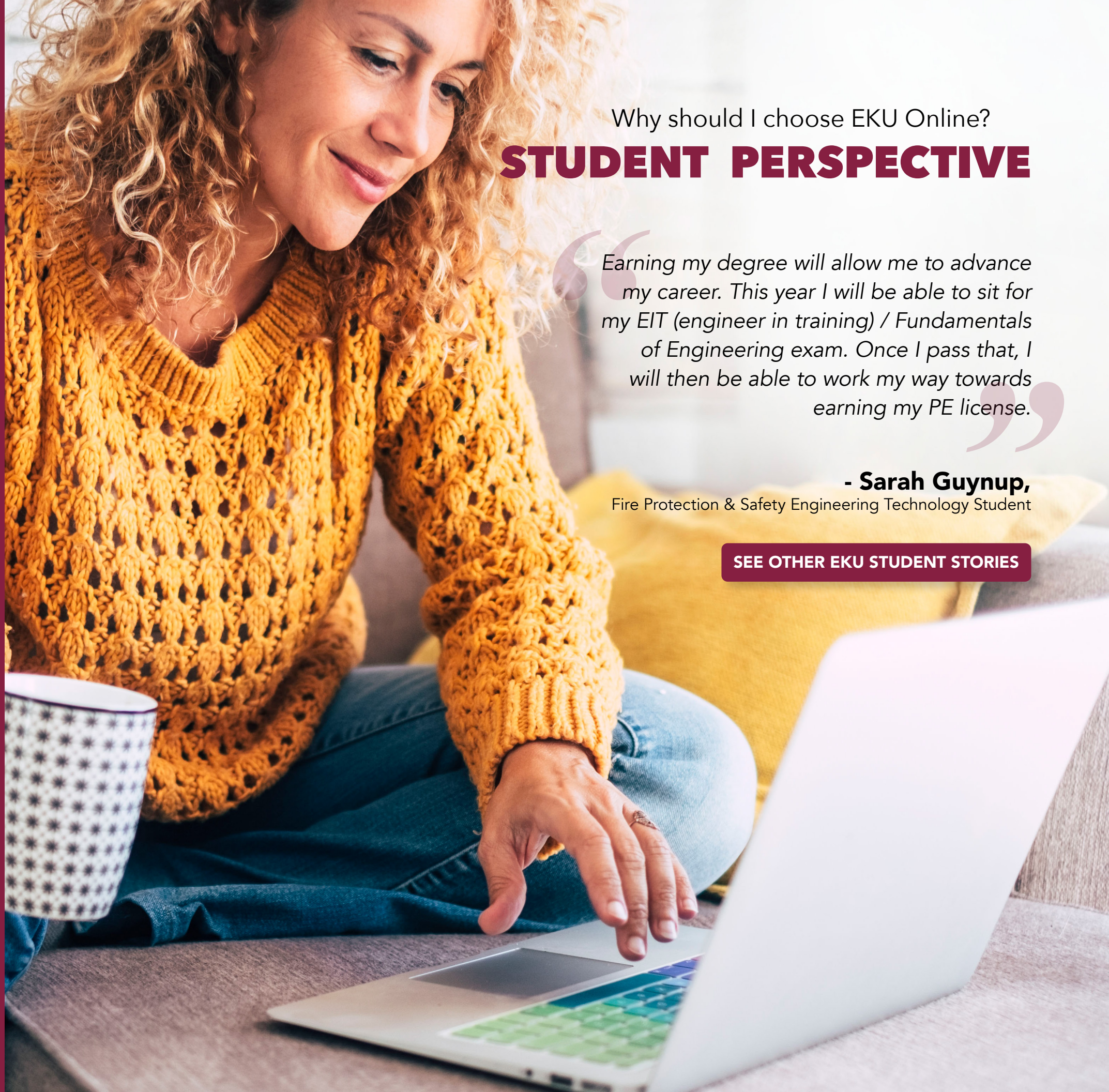
STUDENT PERSPECTIVE

Earning my degree will allow me to advance my career. This year I will be able to sit for my EIT (engineer in training) / Fundamentals of Engineering exam. Once I pass that, I will then be able to work my way towards earning my PE license.

- Sarah Guynup,

Fire Protection & Safety Engineering Technology Student

[SEE OTHER ECU STUDENT STORIES](#)



Can I afford to go back to school?

FINANCIAL AID & SCHOLARSHIPS

Paying for school doesn't have to be overwhelming. Almost everyone, regardless of income, can qualify for some form of financial aid. We're here to help you learn about available options and what may be right for your unique situation.

- Grants
- Federal Loans
- Private Loans
- Military Benefits
- Departmental Scholarships
- Outside Scholarships
- Foundation Scholarships
- Employer Tuition Reimbursement

MORE FINANCIAL AID INFO

Questions about financial aid?

Big E Central

BigECentral@eku.edu

(859) 622-2361

EKU Online offers a range of scholarships designed to address the financial needs of our students, lower the overall cost of attendance and reward a student's scholastic achievements.

EKU UNIVERSITY SCHOLARSHIPS

Start Strong Scholarship Fund (undergraduate programs only)

The Start Strong Scholarship provides up to \$2,000 per year of need-based scholarship funds for newly admitted undergraduate students. Candidates must have a completed FAFSA application, but are not required to be eligible for FAFSA awarded funding.

Stay Strong Scholarship Fund (undergraduate programs only)

The Stay Strong Scholarship provides up to \$1,000 per year of need-based scholarship funds for qualified undergraduate students who have completed two semesters with EKU Online and have earned a 3.5 GPA or higher their previous semester. Candidates must have a completed FAFSA application, but are not required to be eligible for FAFSA awarded funding.

Omega Nu Lambda Honor Society Scholarship Fund

In recognition of your accomplishments as an online student, Omega Nu Lambda Honor Society provides members with an opportunity to apply for a scholarship in both fall and spring. Fall scholarships are announced in November and spring are announced in April.

EKU Foundation Scholarship

The Eastern Kentucky University Foundation, through the generosity of its donors, offers a variety of scholarship opportunities to deserving students. EKU Foundation scholarships are awarded through the University Scholarship Office and at college and department levels. New and renewable awards of [EKU Foundation scholarships](#) are subject to available funds each year.

MORE SCHOLARSHIP INFO

When will I start classes?

APPLICATION DEADLINES

TERM	APPLY BY	BEGIN CLASSES
Fall A	July 5	August
Fall B	August 31	October
Spring A	November 30	January
Spring B	January 31	March
Summer A	April 5	May
Summer B	May 31	June

What do I need to apply?

ADMISSION REQUIREMENTS

First-Time Freshman

- Standard Admission:
high school cumulative GPA (unweighted): 2.50 or higher
- Success First Admission:
high school cumulative GPA (unweighted): 2.00-2.49
- Minimum high school GPA of 2.0 on a 4.0 scale

While test scores are not required for admissions purposes, students are encouraged to submit test scores for proper course placement in English and mathematics courses.

Transfer Students

- Cumulative grade point average (GPA) of 2.0 on a 4.0 scale
- In good academic and financial standing at previous institution
- Students who have earned 23 hours or fewer of college credits after high school graduation must also provide a final high school transcript and meet the requirements for incoming freshmen

ADMISSION INFORMATION

How do I apply?

APPLICATION PROCESS

First-time Freshman:

Step 1: Complete the free online application at:
https://application.eku.edu/portal/apply_eku

START MY APPLICATION

Step 2: Submit your high school transcripts to the Office of Admissions.

Step 3: Submit ACT or SAT scores (not required, but encouraged for determining appropriate course placement).

Transfer Students:

Step 1: Complete the free online application at:
https://application.eku.edu/portal/apply_eku

START MY APPLICATION

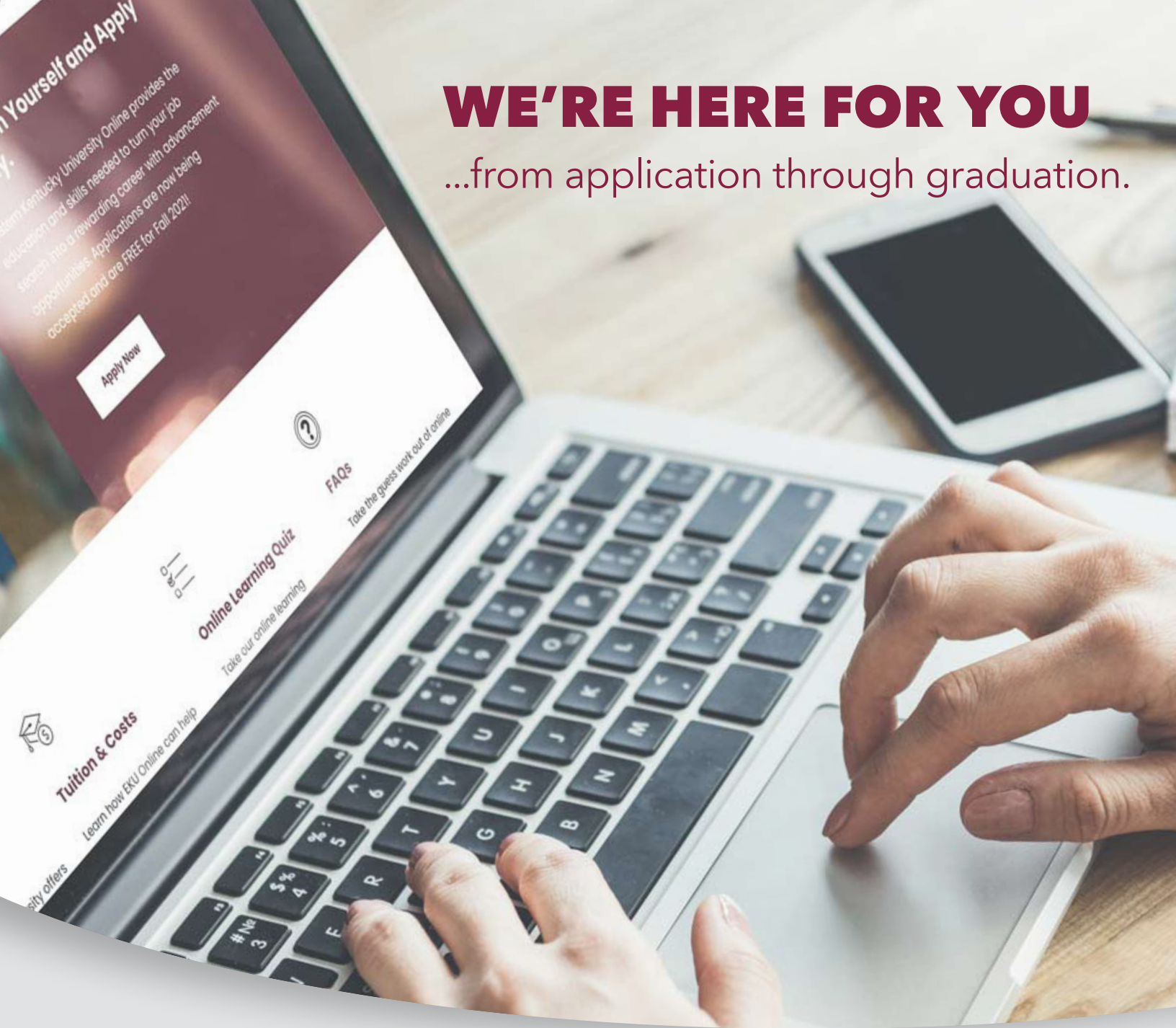
Step 2: Send us your high school transcript (if you have 23 or fewer credit hours).

Step 3: [Send us your official transcripts](#) from each accredited university you attended, including dual credit from high school.

What are you waiting for?

GET STARTED TODAY!





WE'RE HERE FOR YOU

...from application through graduation.



Jordan Tayce
Enrollment Advisor

☎ 859-622-7964

✉ Jordan.Tayce@eku.edu

SCHEDULE A CALL

EKU
ONLINE

Eastern Kentucky University is an Equal Opportunity employer and educational institution and does not discriminate on the basis of age (40 and over), race, color, religion, sex, sexual orientation, gender identity, gender expression, pregnancy, ethnicity, disability, national origin, veteran status, and/or genetic information in the admission to, or participation in, any educational program or activity (e.g., athletics, academics and housing) which it conducts, or in any employment policy or practice. Any complaint arising by reason of alleged discrimination should be directed to the Office of Institutional Equity, Eastern Kentucky University, Jones Bldg. Room 416, Richmond, Kentucky 40475 (859) 622-8020, or the Assistant Secretary for Civil Rights, U.S. Department of Education, Office for Civil Rights, Lyndon Baines Johnson Department of Education Building, 400 Maryland Avenue, SW, Washington, DC. 20202 1-800-421-3481(V), 1-800- 877-8339 (TTY).