



**GRAND CANYON
UNIVERSITY®**

College of Engineering and Technology
ENGINEERING PROGRAMS

FIND YOUR PURPOSE
Private. Christian. Affordable.



Our MISSION

The College of Engineering and Technology (CET) embraces technological and engineering excellence. CET cultivates a Christ-centered community of support and encouragement for our students, faculty and staff. Our mission is to ignite the potential within each student, equipping them with the knowledge and skills necessary to become innovative and entrepreneurial leaders in their respective fields. Committed to transformative learning, our graduates are empowered to make a lasting impact by fostering human flourishing, engaging in intentional service and bringing glory to God through their vocations.

Visit gcu.edu/CET



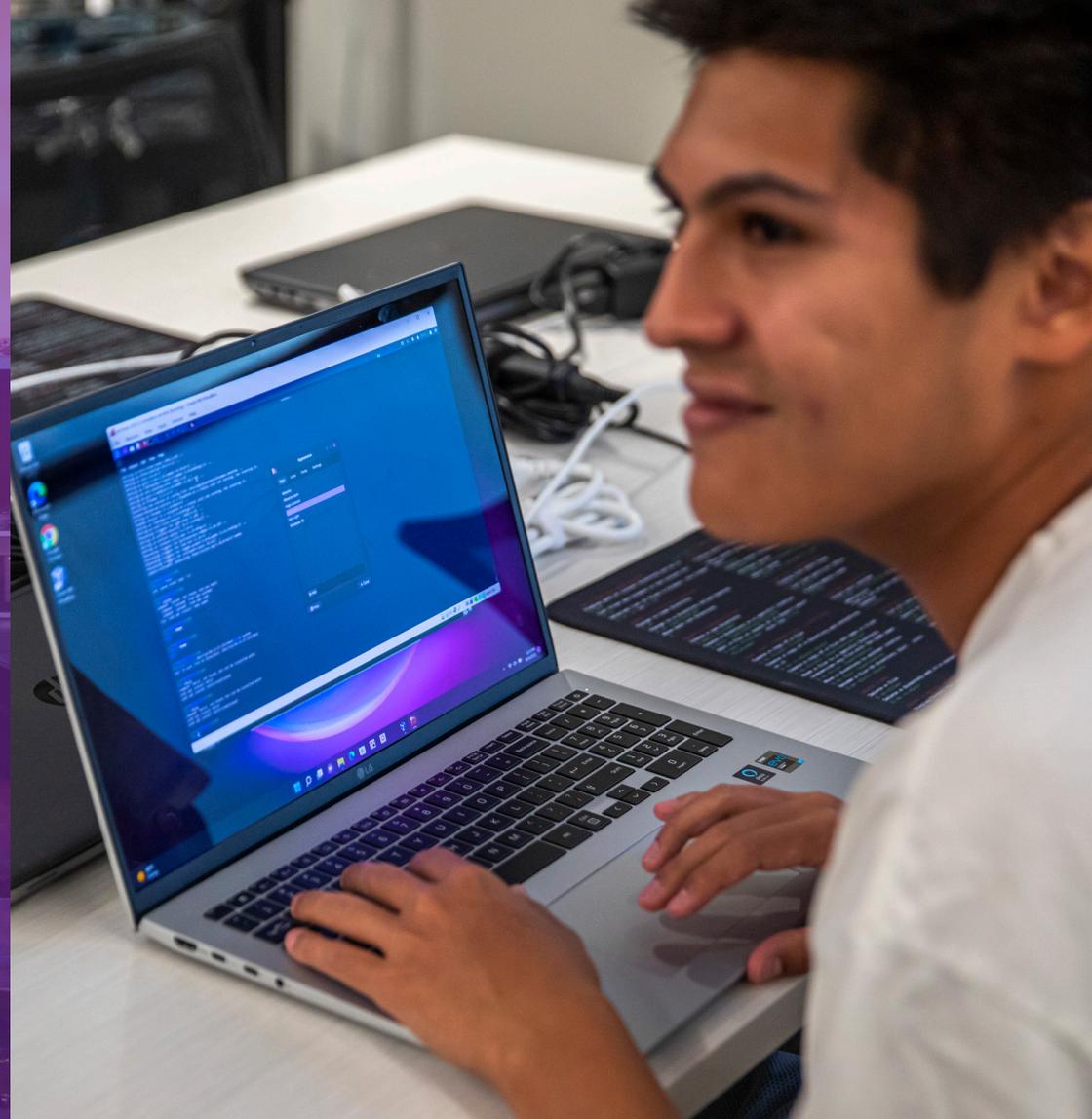
Message From the DEAN

Welcome to the College of Engineering and Technology! Engineering and technology are seeing exciting growth and the people working in these fields directly improve how we interact with each other...and the world. Recognizing this, our CET programs are also growing fast and with this growth comes new facilities, programs, resources and exciting opportunities. Our faculty and staff walk this path alongside you; to help you become your best you. Embrace the chance to engage in work that brings you joy and exemplifies God's love. No matter where you plan to take your career, GCU's College of Engineering and Technology can help you reach your full potential.

Paul Lambertson

WHY GCU?

GCU engineering programs focus on developing future innovators, creators, inventors and agents of change with a heart for Christ. We strive to prepare our engineering graduates to be professionals who possess both exceptional technical abilities and a business acumen that incorporates values, altruism and the spirit of servant leadership.



TOP 10 REASONS TO EARN YOUR ENGINEERING DEGREE AT GCU



1. LEARN FROM AN INDUSTRY-DRIVEN CURRICULUM. CET's programs are created by industry experts in response to the need for resourceful, well-prepared graduates. Our advisory boards and industry opportunities pave the way for students to potentially have internship opportunities beginning their freshman year.



2. EXPERIENCE AN IMMERSIVE LEARNING ENVIRONMENT. Most GCU engineering courses integrate the lecture and lab into a single four-credit experience. Instructors lecture while students apply that day's lesson for valuable application of engineering and mathematical theories.



3. LEARN IN A TOP-NOTCH FACILITY. As of Fall 2022, the GCU engineering building is over 162,500 square feet and houses 21 classroom labs to accommodate our expanding student population and anticipated growth.



4. STUDY IN SMALL CLASSROOM SETTINGS. Connect with your professors and study with faculty who not only have advanced degrees, but most have industry experience and a primary purpose to help you.



5. ENJOY HANDS-ON ACCESS. CET offers hands-on access from day one with labs like our woodworking center, sheet metal forming and finishing center, machining and fabrication center, CNC plasma and welding center, 3D print room and makerspace.



6. SEE ENGINEERING AS MINISTRY. We build our curriculum with a foundation of Christian values and ethics, developing students' innate talents to impact lives and use their engineering skills in service of others.



7. GAIN AN ENTREPRENEURIAL ENGINEERING MINDSET. CET collaborates with GCU's Colangelo College of Business and business accelerator, Canyon Ventures, to foster a culture of innovation.



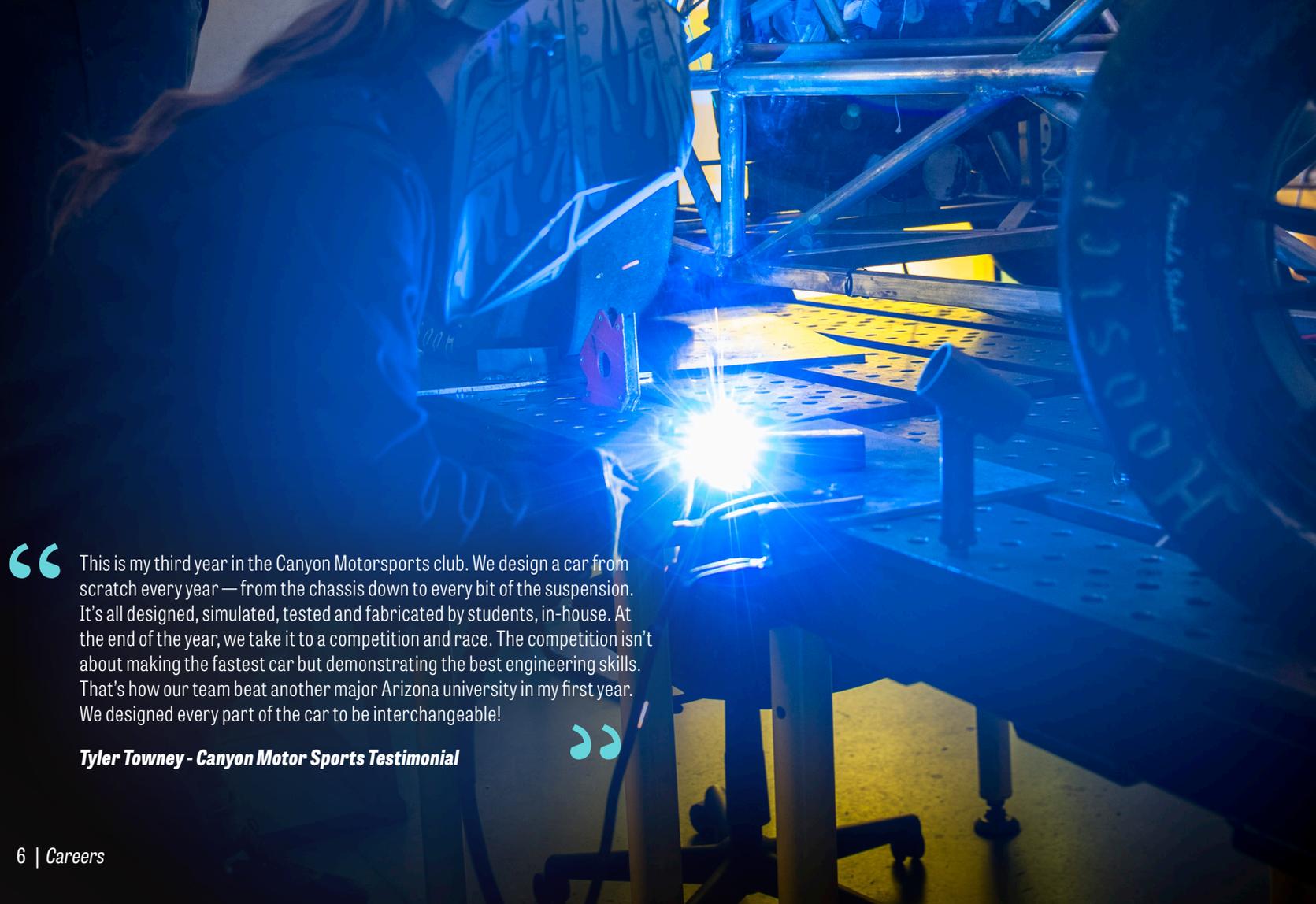
8. START YOUR RESEARCH AT GCU. Starting your freshmen year, you'll have the opportunity to engage in undergraduate engineering research and design through several different pathways. Independent of any corporate relationships students might have, GCU waives 100% of intellectual property, meaning you own anything you design, create, patent or copyright.



9. EXPERIENCE THE LOPES FIRST STUDY CULTURE. Our student-centric culture emphasizes higher purpose and academic focus. Complimentary tutoring is available through faculty office hours and at our Academic Career and Excellence (ACE) Centers and math centers across campus.



10. JOIN STUDENT CLUBS. Compete and network with industry-supported initiatives like the Society of Women Engineers (SWE), Canyon Motorsports (FSAE), Biomedical Engineering Society (BMES), Thunderbots (VEX U), Institute of Electrical and Electronics Engineers (IEEE) and American Society of Mechanical Engineers (ASME).



“ This is my third year in the Canyon Motorsports club. We design a car from scratch every year — from the chassis down to every bit of the suspension. It’s all designed, simulated, tested and fabricated by students, in-house. At the end of the year, we take it to a competition and race. The competition isn’t about making the fastest car but demonstrating the best engineering skills. That’s how our team beat another major Arizona university in my first year. We designed every part of the car to be interchangeable!



Tyler Towney - Canyon Motor Sports Testimonial

CAREERS



The choice to enter the arena of engineering can help you prepare for a career in a growing field.¹ A few potential professional areas of expertise include:

- **DEVELOPING PLANES AND SPACECRAFT BY DESIGNING PROTOTYPES, CONDUCTING SAFETY TESTS AND OVERSEEING THE MANUFACTURING OF AIRCRAFT AND AEROSPACE PRODUCTS**
- **CREATING PRODUCTS, SYSTEMS AND EQUIPMENT THAT TRANSMIT OR USE ELECTRICITY, INCLUDING MOTORS, COMMUNICATION TOOLS AND POWER SYSTEMS**
- **DESIGNING MEDICAL EQUIPMENT TO IMPROVE QUALITY OF LIFE FOR INDIVIDUALS WITH SPECIFIC MEDICAL CONDITIONS**
- **ANALYZING AND DESIGNING SYSTEM IMPROVEMENTS AS WELL AS COMMUNICATING CHANGES TO CLIENTS AND COWORKERS**

¹ Overall employment in architecture and engineering occupations is projected to grow faster than the average for all occupations from 2022 to 2032. About 188,000 openings are projected each year, on average, in these occupations due to employment growth and the need to replace workers who leave the occupations permanently. COVID-19 has adversely affected the global economy and data from 2020 to 2022 may be atypical compared to prior years. Accordingly, data shown is effective September 2023, which can be found here: U.S. Bureau of Labor Statistics, Occupational Outlook Handbook, <Mechanical Engineers, <https://www.bls.gov/ooh/architecture-and-engineering/mechanical-engineers.htm>>, retrieved on January 22, 2024.

ENGINEERING DEGREE PROGRAMS

Grand Canyon University's College of Engineering and Technology offers an educational experience designed to prepare you for a career in the technology or engineering field. Our programs change and program offerings are added to adapt to new developments in STEM industries while continuing to support ethical decision-making within our Christ-centered curriculum.

Several of our engineering programs have received **additional accreditation** through ABET to signify the program's effectiveness and ability to graduate equipped engineering professionals. All applicable engineering programs are ABET accredited.

For more details and a full listing of degrees, visit gcu.edu/CET

BACHELOR OF SCIENCE IN ENGINEERING WITH AN EMPHASIS IN PROJECT MANAGEMENT (ABET ACCREDITED)

Students learn to apply strong business acumen, problem-solving, management skills and an engineering mindset to diverse settings, from startups to corporations. Graduates may have the opportunity to pursue managerial and strategic roles across both engineering and non-engineering environments.

BACHELOR OF SCIENCE IN ENGINEERING WITH AN EMPHASIS IN ROBOTICS (ABET ACCREDITED)

Students can gain the broad foundational skills necessary for various engineering careers and learn to understand the fast-evolving world of robotics. This degree may translate into career opportunities in nuclear engineering, manufacturing, industrial engineering, biotechnology and robotic system design.

BACHELOR OF SCIENCE IN BIOMEDICAL ENGINEERING (ABET ACCREDITED)

This program supports students in learning to develop devices and procedures that solve medical and health-related problems (e.g., ultrasound, MRI, pacemakers, prosthetics, diagnostic equipment, etc.). Graduates may pursue careers with therapeutic and diagnostic device companies, lab equipment companies, government regulation agencies, hospitals and research universities.

BACHELOR OF SCIENCE IN COMPUTER ENGINEERING

BACHELOR OF SCIENCE IN INDUSTRIAL ENGINEERING

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING TECHNOLOGY WITH AN EMPHASIS IN MECHATRONICS (ABET ACCREDITED)

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING (ABET ACCREDITED)

Students are taught to research, design, develop, build and test mechanical and thermal sensors and devices, including tools, engines and machines. Areas of study include generation and transmission of heat and mechanical power, as well as analysis of the environment for the product. Mechanical engineers may work in architectural and engineering services, manufacturing industries and research and development.

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING TECHNOLOGY (ABET ACCREDITED)

Explore the practical applications of mechanical engineering principles and contribute to the advancement of technology people use every day by earning a mechanical engineering technology degree. The program focuses on the practical application of engineering principles to understand how objects and materials work, how they are made and how they can be improved.

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING WITH AN EMPHASIS IN AEROSPACE (ABET ACCREDITED)

Students interested in aerospace engineering who want broadly applicable skills sought after in numerous industries can pursue a degree in mechanical engineering with an emphasis in aerospace. Unlike a BS in Mechanical Engineering, the aerospace engineering emphasis includes courses in aerodynamics, propulsion, flight control systems and aerospace design.

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING (ABET ACCREDITED)

Students learn to design, develop, test and supervise the manufacturing of electrical equipment (e.g., electric motors, radar/navigation systems, communications systems and power generation equipment). Graduates may be prepared to work in industries such as power, semiconductor and aerospace.

¹Retrieved from ABET, Accredited Programs, Grand Canyon University in July 2022

WHY GCU ENGINEERING IS WORTH EXPLORING

- **DAY-ONE-ACCESS** – GCU does not have “Legacy Equipment” which is an obsolete or outdated form of equipment that is no longer utilized in industry. Students have access to equipment that may be seen in industry and are free to design and create projects on both an academic and extracurricular level starting the first day of their freshmen year. Our workshops include but are not limited to:
 - Machine Shop
 - Sheet Metal and Fabricating Center
 - Welding Center
 - Wood Shop
- **HANDS-ON LAB LEARNING** – Our programs offer hands-on labs and industry-driven capstone projects, giving you the opportunity to use your creativity and problem-solving skills to create effective solutions. If your goal is to design, develop, test and/or supervise the manufacturing of new products, then one of our engineering degrees may be a great fit. Students can gain experience and training across 21 labs using advanced technologies and tools for projects. From anything within personal hobby projects to large scale team or club projects, students can apply what they learn in the classroom and direct it toward an academic or industry-led solution throughout their experience.
- **NO SECONDARY APPLICATION PROCESS** – Students are accepted into their program of study when they are accepted to GCU.
- **GCU WAIVES INTELLECTUAL PROPERTY RIGHTS** – Independent of any corporate relationships, a student will retain 100% ownership of the intellectual property of anything they design, create or copyright.
- **BIOMEDICAL DEVICE DESIGN AND PROTOTYPING LABS (BD2P)** – The BD2P lab is focused on helping entrepreneurs design and prototype medical products in connection with GCU’s Canyon Ventures, Cybersecurity, Colangelo College of Business and College of Engineering and Technology (CET) while providing students with opportunities to learn and develop new technologies within the biomedical field.
- **RESEARCH CULTURE** – GCU has an emerging, vibrant undergraduate research culture. Student research is integrated into curricular and co-curricular activities to encourage hands-on, authentic research experience. Research opportunities include Canyon Neuroscience Group, Environmental Sustainability Group, Forensic Science Research Lab, Hybrid Rocket Design and more.

CLUBS AND ACTIVITIES

The Clubs and Organizations Office is dedicated to offering students an opportunity to get connected and involved on campus by building community and engaging in service.

Visit gcuclubs.org to find a club that's a perfect fit for you!

GCU Engineering Clubs include:

- American Society of Mechanical Engineering (ASME)
- Biomedical Engineering Society (BMES)
- Canyon Motorsports (SAE)
- GCU Robotics Club (VEXU)
- Institute of Electrical and Electronics Engineers (IEEE)
- Society of Women Engineers (SWE)



SCAN THE QR
CODE TO FIND
MORE CLUBS



STUDENT WORK AND INTERNSHIPS

In-classroom learning and hands-on experiences outside of the classroom can help students prepare for internships and job opportunities. In addition, independent of any corporate relationships, a student maintains ownership over whatever they create within the GCU shops and labs.

Internship and Employment Opportunities - Workplace learning experiences and academics go hand-in-hand in preparing for the future ahead. Internships are a valued part of gaining career development.

Canyon Ventures - Established in August 2019, Canyon Ventures is GCU's organization that brings together scholars, entrepreneurs, investors, revenue growth experts and mentors to create a collaborative business environment. The space includes local businesses, some started by GCU students, who have committed to give valuable career opportunities to GCU students. For more information, visit gcuworks.com.



DID YOU KNOW?

Twenty-one labs are available for students to experience hands-on learning using advanced technologies and tools for practical projects. Unlike many other universities, students can access these labs from day one of their freshman year.

vimeo.com/showcase/lopeslive labs



“ Being at GCU was phenomenal for my personal and professional growth. When I first started my company Lux Longboards, I was still a student attending classes at GCU. I highly utilized the Lopes Labs. In the machine shops I made rapid prototypes through the use of 3D printing, welding, soldering and milling. My business thrived because of my participation in Canyon Ventures and the advisement of business faculty, staff and leadership here at GCU. ”

— **Weston Smith, Mechanical Engineering Technology, Founder of Lux Longboard and GCU alumnus**





ACADEMIC SUPPORT RESOURCES

The path to becoming an engineer can be quite rigorous and we believe it's important to know that you are supported in your academic journey. GCU provides a variety of support for our students including:

- **MINIMUM OF 15 HOURS OF OPEN OFFICE TIME WITH YOUR FULL-TIME FACULTY MEMBER**
If that thermodynamics lecture went over your head, you can schedule a timeslot with your professor to go over your assignments, lecture or lab in a professional one-on-one setting. Your college faculty are here to support you and your learning styles.
- **ACADEMIC & CAREER EXCELLENCE CENTER (ACE)**
Campus students can receive one-on-one tutoring from fellow GCU students and learn about career resources to help you in college and prepare for life after graduation at the Academic and Career Excellence Centers.
- **ENGINEERING STUDY AREAS**
Within the engineering building on campus, there are a variety of private study rooms that are open 24/7 for students to access and find solitude to study. These private rooms are equipped with conference style tables and chairs as well as glass whiteboards to write all your various equations on.
- **INSTRUCTIONAL ASSISTANTS (IA) AND EXPLORE MORE SESSIONS FOR ADDITIONAL SUPPORT**
- **TEAM OF CET STUDENT SUCCESS SPECIALISTS**
- **CHAPEL, THE GATHERING AND LIFE GROUPS (BIBLE STUDIES)**
- **LIVING AND LEARNING COMMUNITIES**



TAKE THESE NEXT STEPS

1



Apply at
gcu.edu/ApplyNow
and upload your transcripts.
No application fee!

2



Make an appointment with
your counselor to review
scholarships and programs.

3



Upon acceptance visit campus
(all-expenses-paid¹
programs available).

4



Register early to secure
courses and
on-campus housing.

5



Pack your sunglasses and
move to Lope Country!

TO LEARN MORE ABOUT GRAND CANYON UNIVERSITY,

undergraduate programs offered on campus, available scholarships and more, contact an admissions counselor.

855-428-7884 | gcu.edu/CampusAdmissions

¹Travel reimbursement is only available to students who demonstrate their ability to meet admissibility for the traditional campus, plus one legal guardian, from a student's home city/state to Phoenix, AZ. School/district/organizations staff, faculty and/or personnel are also eligible. To participate, the program requires a signed MOU by both the student and parent/guardian or personnel, approval of travel dates by GCU and receipts submitted per GCU requirements. Travel reimbursement thresholds vary based on location and education sector: Only one form of travel will be reimbursed, air or ground. GCU does not reimburse hotel expenses, baggage costs, early check-in or travel insurance fees. Travel reimbursement usually occurs within 45 days.

Grand Canyon University is accredited by the Higher Learning Commission (hlcommission.org), an institutional accreditation agency recognized by the U.S. Department of Education. Please note, not all GCU programs are available in all states and in all learning modalities. Program availability is contingent on student enrollment. Important policy information is available in the University Policy Handbook at <https://www.gcu.edu/academics/academic-policies.php>. The information printed in this material is accurate as of March 2024. For the most up-to-date information about admission requirements, tuition, scholarships and more, visit gcu.edu. Approved by the Associate Dean of the College of Engineering and Technology on Feb. 29, 2024. ©2024 Grand Canyon University 22GTR0511