



# **UA ENGINEERING AND COMPUTING**

**ENGINEERING**

**ENGINEERING TECHNOLOGY**

**COMPUTER SCIENCE**

**COMPUTER INFORMATION SYSTEMS**

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College of Engineering and Polymer Science

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# OUTLINE

We will chat about engineering and computing professions and academic programs from students' points of view.

Have fun finding fun facts. 🙌

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# ABOUT THE COLLEGE

- About 4,400 students
- 3 Ph.D. degrees, 10 master's degrees, 18 bachelor's degrees, 9 associate's degrees and 29 certificate programs
- 4 accelerated BS/MS Programs
- 5th oldest traditional co-op programs in the country 🙌

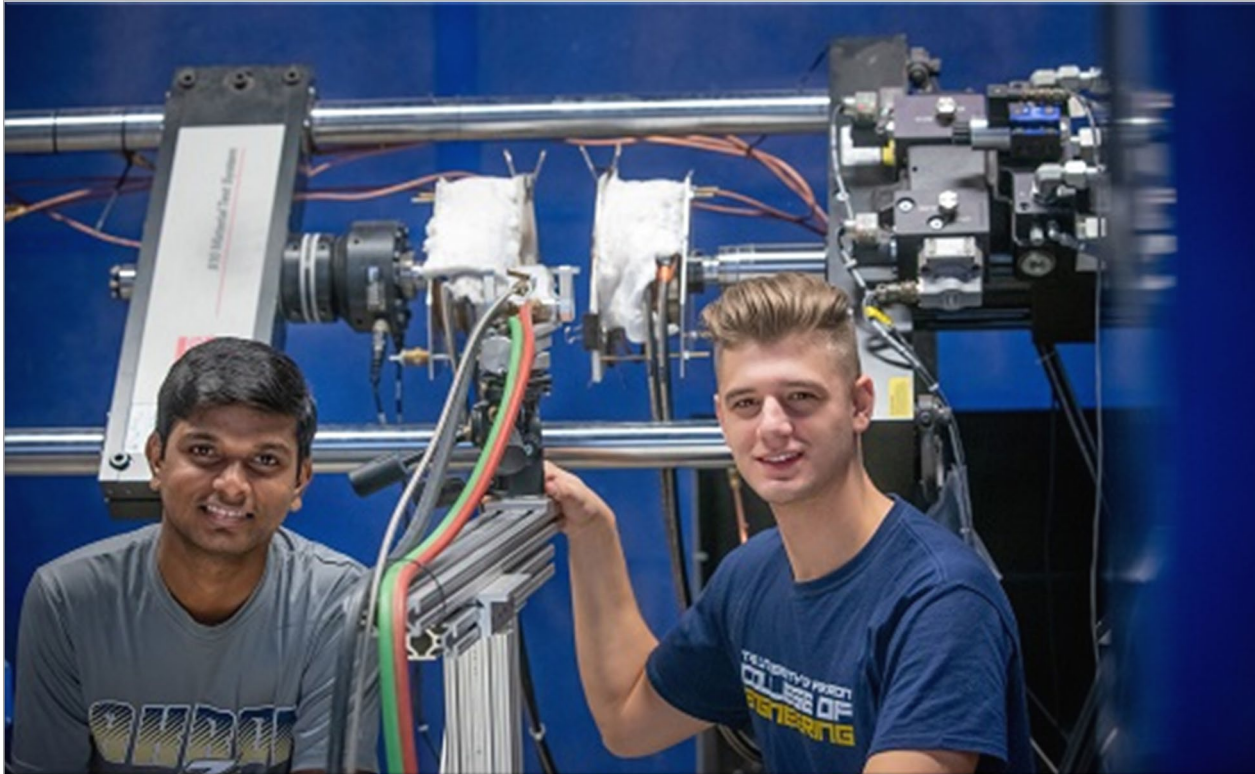


# AEROSPACE SYSTEMS ENGINEERING

MECHANICAL ENGINEERING

MECHANICAL ENGINEERING TECHNOLOGY

AUTOMATED MANUFACTURING ENGINEERING TECHNOLOGY



**Aerospace systems engineers** design and build vehicles that fly, like rockets, satellites, and planes.

*The University of Akron offers the **nation's only** undergraduate Aerospace Systems Engineering degree outside of the US Air Force Academy!*



Median starting salary: \$68,200

We placed students at Meggitt, Lockheed Martin, SpaceX, NASA, etc.



**MECHANICAL ENGINEERING**  
**MECHANICAL ENGINEERING TECHNOLOGY**  
**AUTOMATED MANUFACTURING ENGINEERING TECHNOLOGY**  
**AEROSPACE SYSTEMS ENGINEERING**

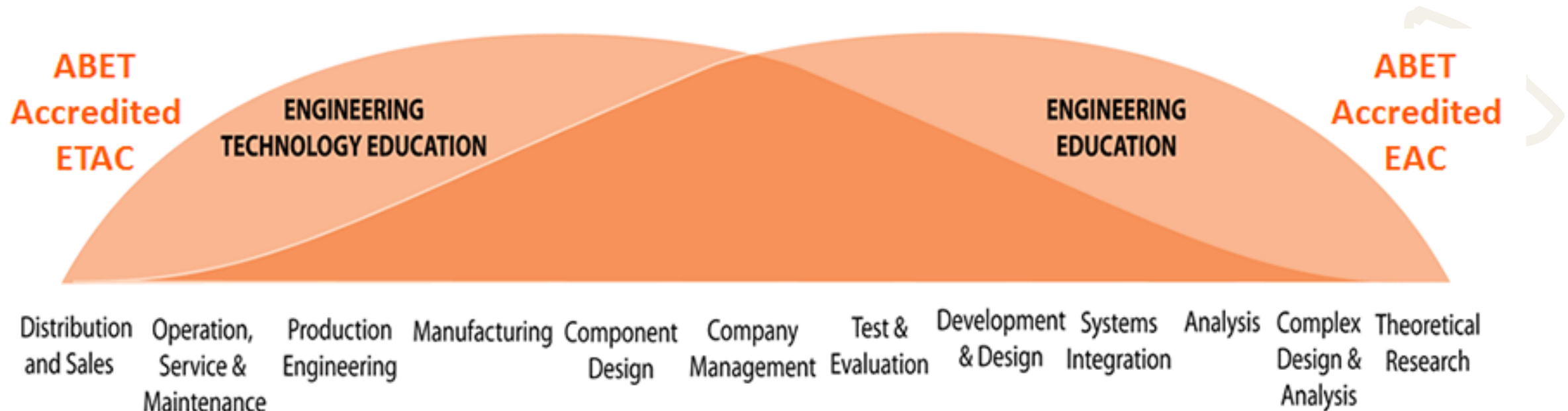


Graduates in programs related to **mechanical engineering and manufacturing** research, design, manufacture, and maintain mechanical systems through their understanding of material properties and physics.

Median salary: \$64,000

We placed students at Goodyear Tire & Rubber Company, Bridgestone , GPD Group, etc.

# ENGINEERING AND ENGINEERING TECHNOLOGY



Source: American Society of Mechanical Engineers



# “SHOULD I CHOOSE ENGINEERING OR ENGINEERING TECHNOLOGY?”

Our answers:

- 1) Both will give you promising careers
  - 2) Design/develop vs. implementing
  - 3) Classes are different
  - 4) Hands-on learning opportunities for both
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## **BIOMEDICAL ENGINEERING**

**Biomedical engineers** apply biology, chemistry, physics, and engineering principles to medicine and healthcare.

Median starting salary: \$61,500

We placed students at: Cleveland Clinic, Zimmer Biomet, J&J, Boston Scientific, etc.



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# CHEMICAL ENGINEERING

## CORROSION ENGINEERING

## CORROSION ENGINEERING TECHNOLOGY

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**Chemical engineers** apply chemical principles to design, evaluate, build, and operate systems capable of converting inexpensive raw materials into marketable products.

Median salary: \$70,000

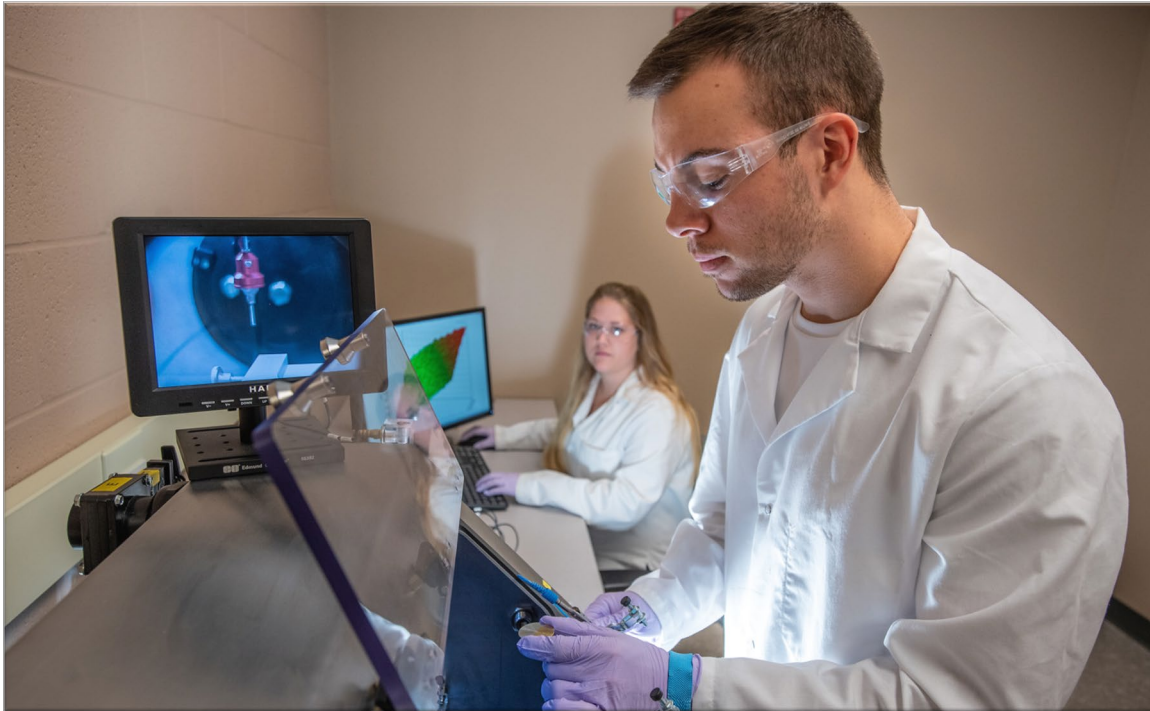
We placed students at Lubrizol, General Electric, Chemstress, etc.



# CORROSION ENGINEERING

# CORROSION ENGINEERING TECHNOLOGY

## CHEMICAL ENGINEERING



Graduates of programs related to **corrosion engineering** work with manage the effects of corrosion on materials, devices, and structures. They develop new materials and ways to prevent corrosion.

*The **only bachelor's** degree program in the nation!*

Median salary: \$70,000



We placed students at BP, Marathon Petroleum Corporation, Philips 66, and Newport News Shipbuilding





# “I AM INTERESTED IN MATERIAL ENGINEERING. WHICH MAJOR SHOULD I PURSUE?”

- Biomedical, Chemical and Corrosion Engineering all offer courses in material science and engineering.
- School of Polymer Science and Polymer Engineering offers research opportunities with faculty members and a minor in Polymer.







**CIVIL ENGINEERING**  
**CONSTRUCTION ENGINEERING**  
**TECHNOLOGY**  
**SURVEYING AND MAPPING**

**Civil engineers** plan, design, build, and operate highways, bridges, buildings, power plants, industrial facilities, tunnels, seaports, airports, and offshore structures. They also work on environmental issues.

Median salary: \$59,000

We placed students at AECOM, ExxonMobil, Environmental Design Group, etc.

# CIVIL ENGINEERING **CONSTRUCTION ENGINEERING TECHNOLOGY** SURVEYING AND MAPPING



**Construction engineering technology** graduates support construction projects, such as residential and commercial buildings, bridges, road dams, wastewater treatment systems.

Median salary: \$50,000

We placed students at The Ruhlin Company, City/County, Environmental design Group, ODOT, Kenmore Construction, etc.



**CIVIL ENGINEERING  
CONSTRUCTION ENGINEERING  
TECHNOLOGY  
SURVEYING AND MAPPING**

Graduates of **surveying and mapping** apply advanced technology to settle boundary, location, and mapping issues by applying knowledge and skills in math, law, local land history, map design, and business.


Median salary: \$43,100

We placed students at KS Associates, ODOT, GPD, Atwell...





## “WHAT ABOUT PROFESSIONAL LICENSES”

In Ohio, to have licenses in Professional Engineers (PE) and Professional Surveyors (PS) [www.peps.ohio.gov](http://www.peps.ohio.gov), it is required to have a BS degree from a program that **is accredited by ABET.** 

At our GRAD Talk, six county engineers (all UA alum) mentioned the importance to have both PE and PS licenses.

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# **ELECTRICAL ENGINEERING**

# **ELECTRICAL AND ELECTRONIC**

# **ENGINEERING TECHNOLOGY**

## **COMPUTER ENGINEERING**

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Graduates of programs related to **electrical engineering** design, implement, test, and apply systems ranging from massive power grids and global communications networks to tiny integrated circuits inside computers and personal electronics.

Median salary: \$70,000

We placed students at FirstEnergy, Burns & McDonnell, PTA Engineering...





# COMPUTER ENGINEERING

ELECTRICAL ENGINEERING

ELECTRICAL AND ELECTRONIC ENGINEERING TECHNOLOGY



**Computer engineers** design and develop hardware and software for everything from communication networks to components in computing systems to small embedded sensors.

Median salary: \$70,000

We placed students at Tiny Circuits, Rockwell Automation, Sanctuary Software, etc.





# COMPUTER SCIENCE

Graduates of Computer Science Programs have a range of career opportunities, from program developer to IT management, from web designer to communications consultant.

Median salary: \$56,000

We placed students at Amazon, Cisco, J.P. Morgan, Smucker's, etc.

# COMPUTER INFORMATION SYSTEMS (CIS)

Graduates from CIS will work as programmers, analysts, software developers, computer operators, or network specialists.

UA was **the first public university in Ohio to offer a bachelor's degree in computer information systems with a focus in cybersecurity!**



Median salary: \$56,000

We placed students at Progressive, Goodyear, Sherwin Williams, PCC Airfoils, LCC, etc.







## WHAT ARE DIFFERENCES AMONG ALL THREE COMPUTING MAJORS?

- Program description
  - Career goals
  - Typical careers
  - Classes
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# WHY UA? THE AKRON EXPERIENCE

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- You don't just learn about engineering, science, and technology. You do it.
- Exceptional and accessible academic programs
- Programs that nurture the **head and heart**
- **Support services** to help you succeed



# WHY UA? | ACADEMIC EXCELLENCE

Undergraduate students work alongside internationally renowned faculty to design solutions to engineering/science challenges.

- Our faculty are routinely acknowledged for excellence in their fields.
- Students learn in state-of-the-art labs.
- The college averages **\$1 million per month** in research funding.
- Minors and certificates





# WHY UA? | CAREERS AND CONNECTIONS

- Real-world, paid (\$19/hour average) industry experience
- The 5th oldest co-op program in the US
- Engineering and Engineering Technology Career Fair
- The co-op office places students in more than 1,100 co-op positions each year!
- Career services for professional development





# ENGINEERING CO-OP SAMPLE SCHEDULE

- You are full-time students during your co-op.
- Participating in co-op can extend your program to five years as you are adding a year of work experience to your growing resume.

	Fall	Spring	Summer
Year 1	Class	Class	Vacation/Class
Year 2	Class	Class	Vacation/Class/ <b>Potential Co-op</b>
Year 3	Class	<b>Co-op I</b>	Class
Year 4	<b>Co-op II</b>	Class	<b>Co-op III</b>
Year 5*	Class	Class	

# CO-OP AND FULL-TIME PLACEMENT







# WHY COOP/INTERNSHIP IS IMPORTANT?

Difference in skills

Difference in experiences

Difference in starting salaries (\$6,000)

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# WHY UA? | EXPERIENTIAL LEARNING



- Aero Design Team
- [Akronauts](#)
- Biomedical Engineering Design Team
- Corrosion Robot Design
- Concrete Canoe
- Engineering Service Design Team
- Human Powered Vehicle
- NASA Robotics Mining
- SAE Baja Team
- SAE Formula Combustion
- SAE Formula Electric
- Steel Bridge Design Team



# WHY UAP? | PROFESSIONAL DEVELOPMENT

## There is something for everyone in the College

- 3D4E
- Amateur Radio
- American Institute of Aeronautics and Astronautics
- American Institute of Chemical Engineers
- American Society of Civil Engineers
- American Society of Mechanical Engineers
- Association for Computing Machinery
- Biomedical Engineering Society
- Construction Management Association of America
- Corrosion Squad
- Cybersecurity Student Organization
- Electronics Club
- Engineering Student Council
- Engineers for a Sustainable World
- Eureka
- Gathering of Potential Surveyors
- National Society of Black Engineers
- Polymer Engineering Student Organization
- Polymer Science Student Organization
- Rubber Division ACS Student Chapter
- Society of Hispanic Professional Engineers
- Society of Women Engineers
- Structural Engineers Association of Ohio
- Tau Beta Pi (Engineering Honor Society)

# WHY UA? | AN ACCESSIBLE EDUCATION

In addition to UA scholarships, undergraduate engineering students receive about **\$750K annually in donor-funded scholarships (about 440 scholarships)!**

Visit [uakron.edu/finaid/scholarship-programs/](http://uakron.edu/finaid/scholarship-programs/) to learn more.



# WHY UA? | SUPPORT SERVICES



- Freshman Learning Communities
- Women in Engineering Program (WIEP)
- Increasing Diversity in Engineering Academics (IDEAs) Program
- Supplemental learning through the College's Tutoring Program
- Advisors to help you every step of the way!





# ADMISSIONS TO THE COLLEGE

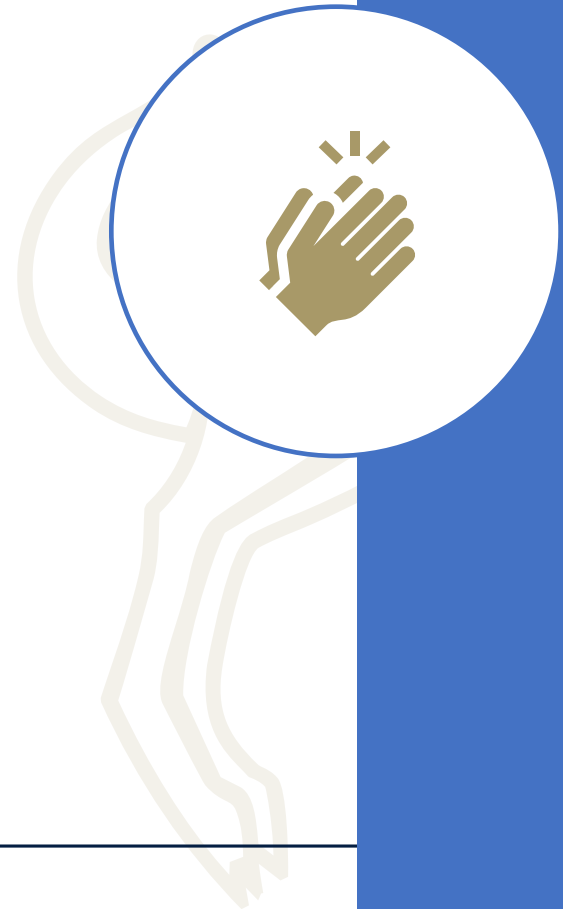
When students are admitted to UA with an engineering or computing major, they are in the College of Engineering and Polymer Science.

- No waitlists
- Access to junior and senior classes after reaching certain benchmarks
- Time to degree depends on many factors



# FUN FACTS

1. The fifth oldest coop program in the nation
2. Aerospace Systems Engineering is the only BS program outside Air Force Academy
3. Corrosion Engineering is the only BS program in the nation
4. In Ohio, PE and PS licenses need BS degrees from programs accredited by ABET
5. UA was the first public university in Ohio to offer a bachelor's degree in computer information systems with a focus in cybersecurity.
6. School of Polymer Science and Polymer Engineering offers minor in Polymer and undergraduate research opportunities.







# CONNECT WITH US @ FUTUREENGINEERS@UAKRON.EDU OR JBRLAN@UAKRON.EDU



@UAkron\_Engr



@UAkron\_Engr

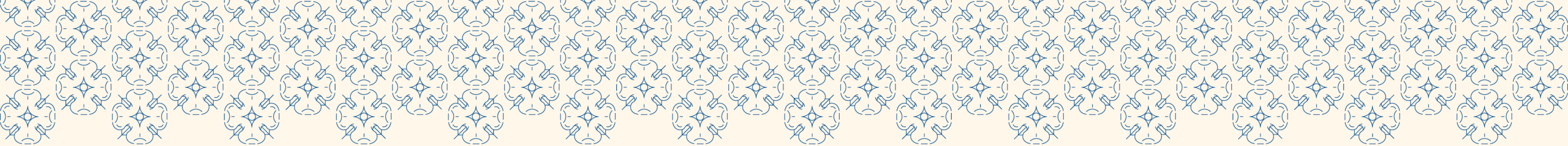


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# Questions

