



## A2 ACHIEVE COLLEGE & CAREER ALIGNMENT ASSESSMENT BEAU BLACK

### THE BIG PICTURE

Beau, you are much more interdisciplinary than the words “future engineer” suggest. When I look at everything you told me, I see four major parts of you:

#### **The engineer.**

You like solving problems, troubleshooting designs, looking for the detail other people miss and understanding how things work.

#### **The researcher.**

You are willing to spend a year investigating something complicated. Your AP Research topic was not a lightweight subject. You studied school meals, economic disparities and stigma across different communities.

#### **The teacher.**

This is one of the strongest patterns in your entire profile. You teach martial arts. You explain math to classmates. You mentor younger students. You said directly that you think teaching is something you are unusually good at.

#### **The musician/humanities student.**

You sing at a high level, play piano, read widely, participate in church leadership and have an unusual interest in social-policy questions for someone whose intended degree is engineering.

Those interests are not contradictions. They actually tell me something important. You are interested in **systems**, but you are also interested in **people**. That is probably the most important career clue in this assessment.

### YOUR ACADEMIC PROFILE

Your academic profile is broad. You are quantitatively strong enough for engineering, but nothing about your record suggests that you need to live exclusively inside STEM. In fact, two of the classes you named as favorites were Calculus and Literature. Your least favorite was economics. That is interesting because you care deeply about economic inequality while disliking economics as a classroom subject. That tells me your interest is probably less: **“I love economic theory.”** and more: **“I want to understand why real systems create different outcomes for real people.”** That distinction matters.

## HOW YOU APPEAR TO THINK

You appear to be a **detail-first problem solver**. You tend to inspect a situation rather than immediately abandon it when something fails. Your CAD story is a great example. You kept examining a design until you found connection points causing the problem. Your fuel-cell story follows the same pattern. Your martial arts experience follows it again: lose, study the match, identify the error, improve. You even described what makes you different this way: You look for details to solve problems and analyze what you missed so you can avoid missing it the next time. That is an engineering trait. It is also a research trait. And frankly, it is a very good life skill.

## CAREER ALIGNMENT

### Aerospace Engineering

This is currently the strongest direct career alignment. You want to work in the space industry and contribute to space exploration and data collection. Your academic preparation supports aerospace engineering. Your problem-solving style supports it. Your interest in complex technical systems supports it. I absolutely think aerospace deserves serious exploration.

### Mechanical Engineering

Mechanical engineering is also an excellent fit. The advantage is breadth. A mechanical engineering degree can lead into:

- Aerospace
- Propulsion
- Manufacturing
- Robotics
- Energy systems
- Defense
- Space hardware
- Testing
- Design
- Automotive systems
- Research and development

If you eventually discover that rockets are less interesting to you than mechanisms, robotics or energy systems, mechanical engineering gives you room to pivot. And mechanical engineers work throughout the aerospace industry.

So I would frame this as:

**Aerospace = more specialized early.**

**Mechanical = broader engineering platform with the ability to enter aerospace later.**

Neither is inherently better.

### Aerospace Systems / Space Systems / Systems Engineering

I also want you to explore systems engineering eventually. Why? Because you seem interested not only in components but in how parts interact inside a larger system. Your engineering thinking plus your broader curiosity may fit systems work particularly well. This could become especially relevant in aerospace, defense and space-program environments.

### **Engineering Research and Development**

You said that if money were irrelevant, research is one career direction you could imagine. I believe you. You already completed a yearlong independent research project and identified that project as one of your proudest accomplishments. Engineering R&D may fit you extremely well. That could eventually mean graduate school, but you do not need to decide that now.

### **Engineering Education / University Teaching**

Do not dismiss this one. You repeatedly returned to teaching throughout your questionnaire. Not once. Repeatedly.

You teach martial arts.

People ask you to explain concepts.

You enjoy helping someone understand something.

You enjoy younger students.

You mentor.

You said being an instructor “could be cool.”

There is a plausible future version of Beau who earns an engineering degree, spends time in industry or research, earns a graduate degree and eventually teaches engineering. That may or may not happen. But the pattern is strong enough that I want you to keep it in the back of your mind.

### **PUBLIC POLICY + ENGINEERING**

Here is the less obvious possibility. Your AP Research project, Boys State work, interest in school inequity, church involvement and engineering interest create an unusual intersection: **technology + public policy**. Possible long-term fields include:

- Space policy
- Science policy
- Engineering policy
- Public infrastructure policy
- Technology ethics
- Federal research programs
- Defense/space program management

You do not need to major in political science to explore that. You could major in engineering and later pursue policy through electives, a minor, graduate school or work.

### **YOUR MUSIC INTEREST**

A music minor makes sense if you genuinely want music to remain part of your life. You have enough depth for that decision to be authentic. I would not choose a college solely because it offers a formal music minor, though. Many universities allow non-music majors to participate in ensembles, choirs, lessons or performance groups. When we compare schools, I want to investigate not merely: “Does it have a music minor?” but: **“What opportunities does an engineering student have to continue serious music without making scheduling impossible?”** That is a better question.

## THEOLOGY / FAITH

The same applies to theology. Your faith is not just a checkbox activity. You have been a youth delegate and voting member at the United Methodist Annual Conference and have sustained children's ministry and backpack ministry involvement. If theological study interests you intellectually, we can look for:

- Religious studies minors
- Theology minors
- Campus ministry
- Wesley foundations
- Church communities
- Service organizations

That may give you the faith component you want without requiring it to become your academic concentration.

## YOUR LEADERSHIP PROFILE

You are not primarily the “command the room” type of leader. You appear to be a **teacher-leader**. People follow you because you know what you are doing, explain it well and make other people better. That is different from collecting titles. And I like it better for your application.

There is also a quiet moral component to your leadership. You talked about trying to stop other students from making cruel remarks about a friend. Your stated values include honesty, work ethic, kindness and positivity. We should allow that character to emerge naturally instead of announcing it.

## YOUR STRONGEST DIFFERENTIATORS

If I had to reduce your application to five things that I think make you interesting, I would choose:

### 1. Engineer + human-centered researcher

You can work on a fuel cell and investigate childhood hunger.

### 2. Martial artist + teacher

You are not simply participating or competing. You teach and mentor.

### 3. High-level music + high-level STEM

All-State Choir and classical piano give your application another dimension.

### 4. Technical detail orientation

You have a recurring habit of finding what others miss.

### 5. Values-driven curiosity

Your intellectual interests repeatedly come back to improving people's lives. You actually said that with unlimited resources you would want to learn something that could improve human quality of life. That says a lot.

## **COLLEGE ENVIRONMENT**

I don't see you needing a tiny college. Your stated schools indicate that you are comfortable considering large universities with strong school spirit and major engineering ecosystems. I think you are likely to thrive somewhere with:

- A serious engineering program
- Hands-on design opportunities
- Undergraduate research
- Aerospace/space-industry connections
- Multiple engineering disciplines
- Strong campus life
- Music opportunities for non-majors
- A community where you can continue faith involvement
- Enough intellectual breadth to explore policy/humanities
- Opportunities to teach, mentor or serve.

Your stated desire for college is also developmental. You said you want to become more educated, more independent and more confident, and that you hope to meet people who share some of your values while also meeting people who think differently enough to broaden your worldview. That is a very good reason not to choose a college solely by engineering ranking.

## **YOUR CURRENT COLLEGE LIST**

### **Auburn**

Strong fit. Excellent engineering options, major university environment, strong school identity, close enough to home without being home, and an academic profile where you are very competitive. Auburn should remain on the list.

### **Purdue**

Very strong academic alignment. Purdue is especially attractive if engineering becomes the dominant factor in your decision. It also offers the kind of large STEM ecosystem where engineering can lead into research, aerospace and industry. This is a reachier admission proposition than Auburn, particularly through First-Year Engineering, but it makes sense on your list.

### **Georgia Tech**

Excellent intellectual and career fit. Georgia Tech fits the student you appear to be academically. The problem is not fit. The problem is selectivity. You are an Alabama applicant competing in the non-Georgia pool, so this should be treated as a serious reach regardless of your excellent record.

### **UT Austin**

Again, excellent academic fit. Cockrell has aerospace and mechanical engineering and enormous research opportunities. Cockrell reports more than 6,000 undergraduate engineering students, including substantial aerospace and mechanical cohorts. But admission to UT as an out-of-state engineering applicant is exceptionally competitive. Keep it because the fit is legitimate. Do not build your plan around getting in.

### **Clemson**

I like Clemson for you considerably more than “maybe Clemson.” Its latest admitted class had a 28–32 ACT middle 50%, and 53% of enrolled freshmen reporting rank were in the top 10% of their graduating class. Your academic profile is above those published benchmarks. Clemson also gives us strong engineering, school spirit, research, an Honors College and a campus culture that is different enough from Auburn to create a real choice. I would keep Clemson.

### **SCHOOLS I WOULD CONSIDER ADDING**

Before finalizing your list, I would investigate at least:

#### **University of Alabama**

Not because it is academically equivalent to every school above, but because you may have significant honors and merit leverage and Alabama has substantial engineering opportunities.

#### **University of Alabama in Huntsville**

Especially interesting because of Huntsville's aerospace, NASA, defense and engineering ecosystem. It could be an extraordinary financial/career hedge even if it is not currently your preferred campus experience.

#### **Virginia Tech**

Strong engineering culture and school spirit; potentially a very natural fit.

#### **NC State**

Strong engineering and research ecosystem with major industry connections.

#### **Texas A&M**

Strong engineering, aerospace and university culture, although admission into engineering pathways deserves separate analysis. I would not automatically apply to all five. I would use them to finish the reach/target/likely structure.

### **YOUR COLLEGE AND CAREER DIRECTION**

At this point, I would not tell you: “You are definitely an aerospace engineer.” I would tell you:

**Engineering is strongly supported by your record. Aerospace deserves to remain your first exploration. Mechanical engineering is a smart parallel path. Research, teaching and systems-oriented work deserve to remain on your radar.** And I would encourage you to enter college with enough curiosity to discover which version of engineering actually fits you. You have time.