

PATH TO ENGINEERING

MODULE 4

Copyright 2023 Kelsey Hite



DEADLINES

SOONER THAN YOU THINK!



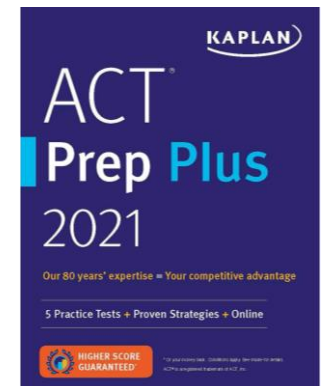
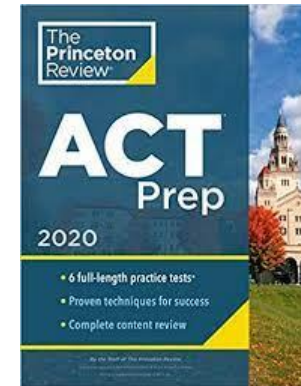
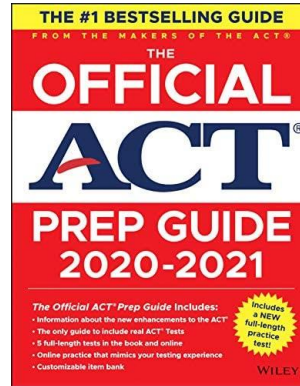
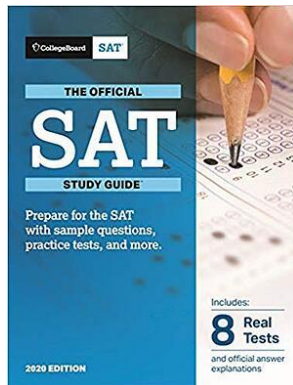
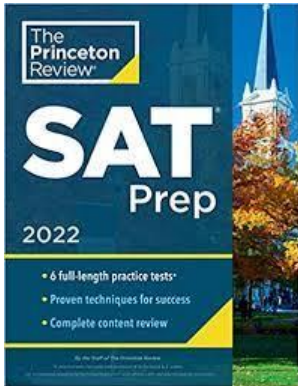
- **College applications are due ASAP!**
 - Cal Poly: Oct 1 – Nov 30
 - Cal State: Oct 1 – Nov 30
 - University of California (UC) Schools: Nov 1 – 30
- **Letters of Recommendation:**
 - Give your teachers/employers time to write these letters
 - Ask at least a few weeks before the letter is due
- **Essays:**
 - Don't leave them until last minute
 - Give yourself time to proofread the next day before submitting
- **ACT/SAT Tests:**
 - Can take up to 8 weeks to get results (usually ~2-4)

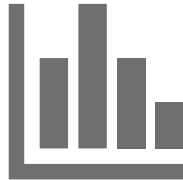


COLLEGE PREP

ACT & SAT TESTS

- **Reading, Writing, Math, and Science:**
 - Colleges want to see well-rounded students
 - It's ok if you struggle with some subjects!
 - Try to study to improve your skills in your weaker areas
- **Test Prep Materials:**
 - There are many test prep books that are very helpful
 - Kaplan, CollegeBoard, and The Princeton Review are great
 - See the resources list (last slide) for links to free online resources

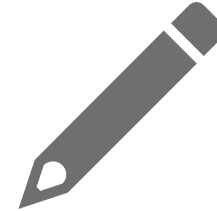




Colleges publish their statistics

Look for the average test scores and GPAs of different schools

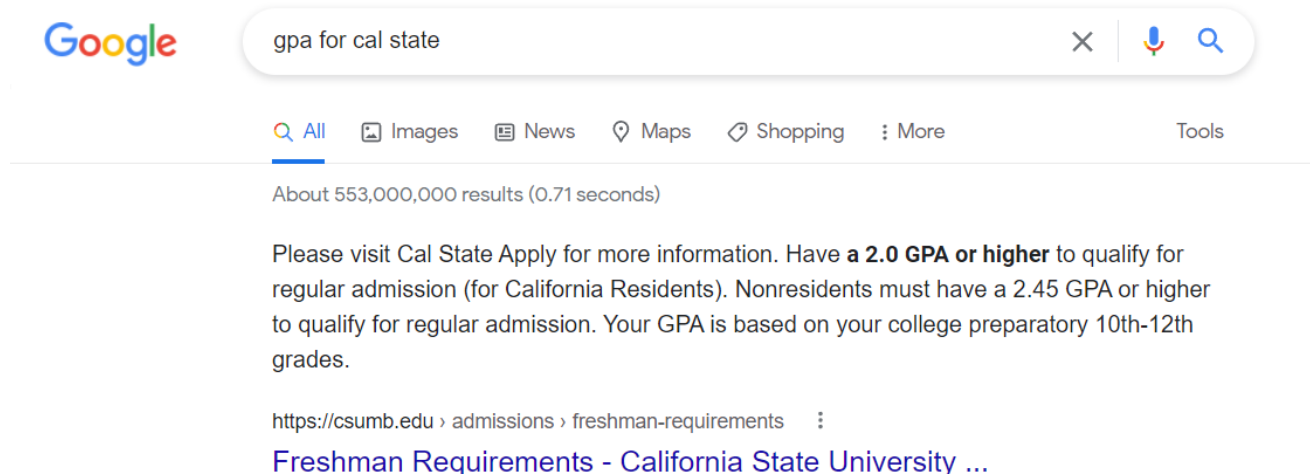
Easy to quickly search and get a general idea of which schools you think you're ready for



Read example essays

Find examples of both good and bad essays to learn what to do and not to do

Be sure to have others proofread your essays before submitting them



CREATE A RESUME



- **One-Page Summary:**
 - Experiences
 - Grades
 - Skills
- **Easy to Read:**
 - One page
 - Black and white
 - Bullet points
 - Labelled sections
 - Bold important information
- **Why:**
 - Communicates your experience
 - Used for college/job applications
- **Get Help:**
 - Ask someone (teacher, mentor) to help edit your resume

HIGH SCHOOL STUDENT RESUME

Youremail@gmail.com

Phone

City, State

LinkedIn URL, Website

Motivated student (3.6/4.0) who demonstrates strong work ethic and creative ability. Seeking to apply my graphic design skills and artistic drive as a summer intern at your company. Will leverage proven experience as a competent designer to contribute to company goals and needs.

EDUCATION

Santa Monica High School, Santa Monica, CA

Senior

- **GPA:** 3.6 / 4.0
- **Relevant Coursework:** Intro to Graphic Design, AP Art, Yearbook, Computer Applications
- **Honors:** Member of the National Honors Society and National Art Education Association
- **Clubs:** Yearbook Club, Santa Monica Newspaper, Spanish club

MAJOR ACHIEVEMENTS

Yearbook Club

Yearbook Design Team Lead

2015 - Present

- Created a Yearbook logo designed to incorporate school mascot and colors; opted to use coated paper in 2016, which improved photo quality and increased profits by 5%
- Arrange all club photos and pages to correspond to yearbook theme
- Trained and supervised 2 sophomore students in graphic design

Santa Monica Newspaper

Graphic Designer

2015 - Present

- Procured advertising for school paper, saving organization 25% in costs
- Edited and curated photos used for school paper; increasing readership by 15%
- Custom design page layouts to fit articles, photos, and advertisements into strict format
- Contributed to school's online publication by designing page layouts to accommodate mobile screens

ADDITIONAL SKILLS

- Proficient in Photoshop and Adobe Creative Suite
- Basic knowledge of HTML
- Basic knowledge of Adobe Dreamweaver
- Great photographer
- Keen eye for aesthetics with good understanding of image gradients
- Intermediate speaking level in Spanish

AWARDS, HONORS, AND HONORARY MENTIONS

- Nominated for Macmillan Prize for Illustration in 2016
- Submitted artwork to Ocean Awareness Student Art Contest 2016
- Came in 2nd place in the Applied Arts 2016 Student Awards for submitting graphic design work under the category of Advertising



CHOOSING YOUR PATH

FIND YOUR PASSION

- **Ask Yourself Questions:**
 - What do you love enough to do every day?
 - What are you talented at and feel good doing?
 - What is fun for you to learn about?
- **Career Aptitude Tests:**
 - Try some fun quizzes to sort out your interests
 - <https://www.princetonreview.com/quiz/career-quiz>
 - <https://www.123test.com/career-test/>

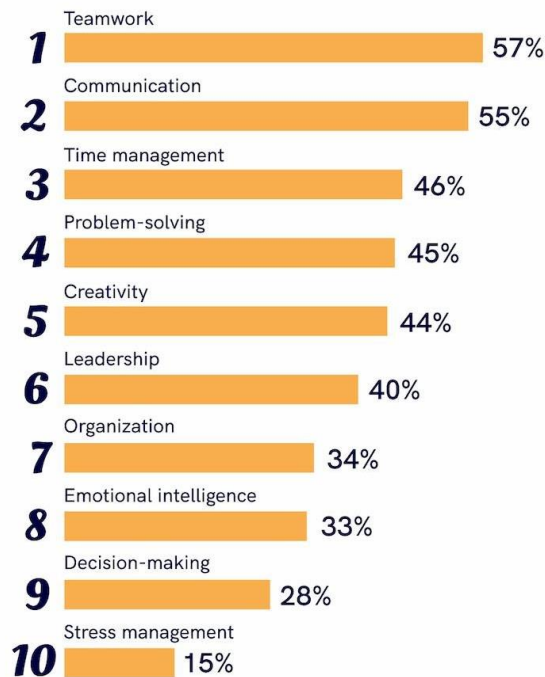


Figure 1. Factors of Choosing a Career



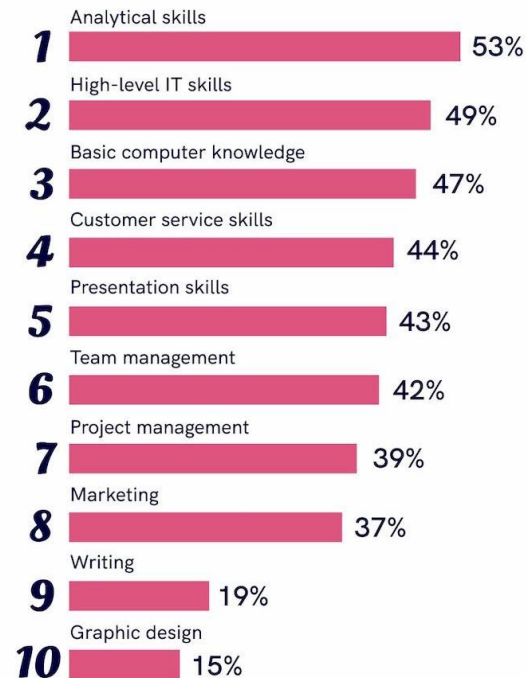
FOLLOW YOUR INTERESTS

- **All Experiences are Valuable:**
 - Want to be an engineer? Your music class is helping!
 - Want to be a businessperson? Your service job is helping!
- **How do your hobbies grow the top 20 important skills below?**



2020 study on skills employers look for conducted by zety

Figure 2. Top 10 Soft Skills



2020 study on skills employers look for conducted by zety

Figure 3. Top 10 Hard Skills

INFINITE POSSIBILITIES



- Aerospace Engineering
- Architectural Engineering
- Biomedical Engineering
- Chemical Engineering
- Civil Engineering
- Computer Science/Engineering
- Electrical Engineering
- Environmental Engineering
- Industrial Operations Engineering
- Marine Engineering
- Mechanical Engineering
- Nuclear Engineering
- Petroleum Engineering





SKILL BUILDING



- **Research:**
 - Learn about people/events beforehand to understand the context and expectations of your conversations
- **Present Yourself Purposefully:**
 - Figure out what you want from a conversation and how you would like to portray yourself accordingly
- **Know Your Pitch:**
 - Practice clearly and concisely introducing yourself
- **Ask Questions:**
 - This both helps you learn and shows that you are a great listener!
- **Maintain Your Online Persona:**
 - Make sure your social media is appropriate and shows you in a good light
- **Follow Up:**
 - Get people's contact info and maintain relationships
- **Practice!**
 - Start practicing with friends/teachers, and work your way up to real-life events (NSHSS)

- **Tips:**
 - Read!
 - Ask for feedback
 - Try keeping a journal to practice daily writing
 - Think about who your audience is
 - Edit your writing the next day (let yourself sleep on it)
 - Make an outline
 - This is giving yourself a roadmap for writing so you are not aimless

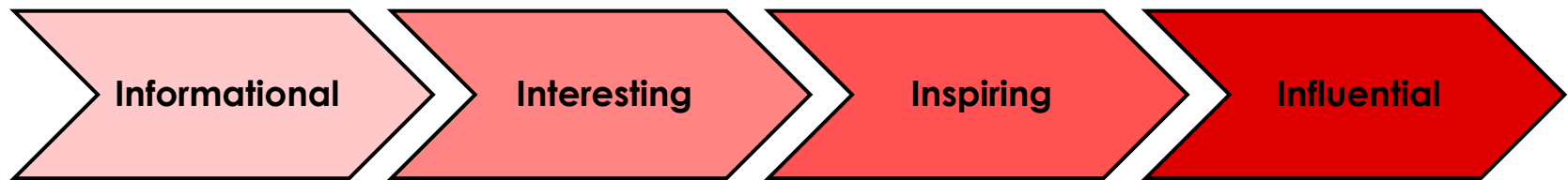


Figure 4. 4-I Writing Technique

- **Find Hands-On Opportunities:**
 - Join clubs (like ARC!) to apply your classroom lessons into the real world of engineering

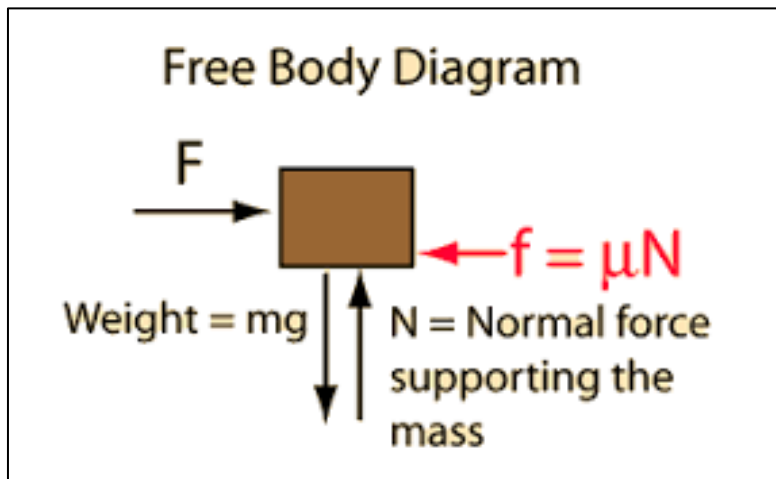


Figure 5.

How we learn about free body diagrams

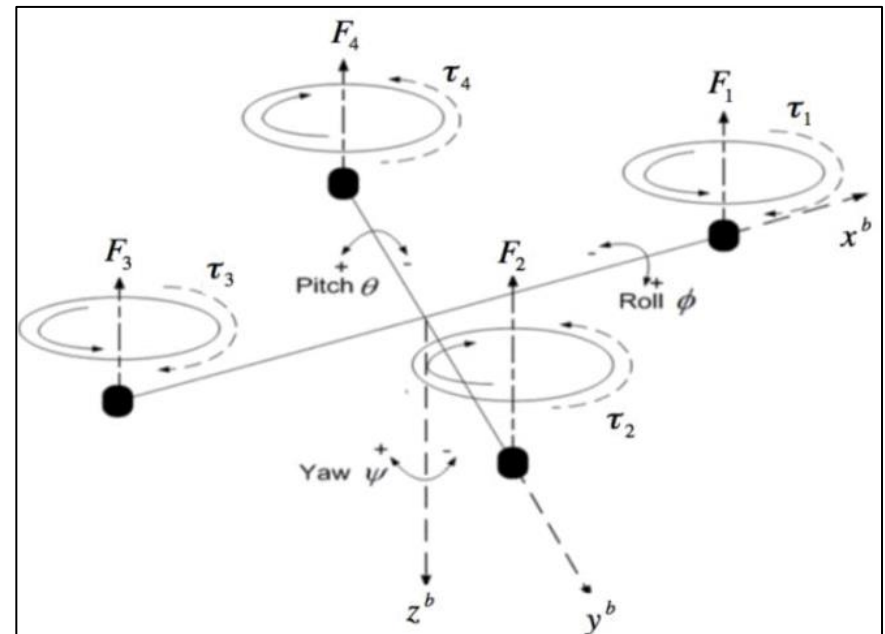


Figure 6.

How we can apply free body diagrams



RESOURCES

MORE RESOURCES



- **SAT Test Resources:**
 - Free practice test: <https://collegereadiness.collegeboard.org/sat/practice/full-length-practice-tests>
 - Free sample questions: <https://collegereadiness.collegeboard.org/sample-questions>
 - **Free video lessons:** <https://www.khanacademy.org/test-prep/sat>
- **ACT Test Resources:**
 - Free practice tests and questions: <https://www.act.org/content/act/en/products-and-services/the-act/test-preparation/free-act-test-prep.html>
- **Career Aptitude Tests:** <https://www.thebalancecareers.com/free-career-aptitude-tests-2059813>



SOURCES

SOURCES



- **Figure 1:** <https://elitegradjobs.com/how-to-choose-a-career/>
- **Figures 2-3:** <https://zety.com/blog/skills-employers-look-for>
- **NSHSS (Slide 13):** <https://www.nshss.org/blog/7-networking-skills-designed-to-help-students-flourish-at-events/>
- **Figure 5:** <http://hyperphysics.phy-astr.gsu.edu/hbase/freeb.html>
- **Figure 6:** <https://www.semanticscholar.org/paper/Robust-Active-Force-Control-of-A-Quadcopter-Omar-Mailah/39cfbd2e03a1438d1c12cbec93ef43eab372f47a>