



Pre-Health Preparation: How to Become a Strong Applicant

Part 1: Pro Tips for Getting Started at CU Boulder

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UNIVERSITY OF COLORADO BOULDER

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Before We Begin


Be prepared to take lots of notes!

Be sure you have printed out the following documents:

- *Continuing Education Pre-Health Student Handbook*
- *Handout Packet for this video*
- *Prerequisites PDF for your field(s) of interest*
- *Quick Facts PDF for your field(s) of interest*

... Create a pre-health binder & store these handouts in it

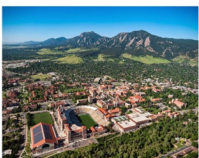
As questions arise (during and after this video), write them down and bring them to your first individual pre-health advising session.

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Continuing Education Pre-Health Student Handbook

STUDENT HANDBOOK



Continuing Education Pre-Health Advising


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Topics Include

- Getting started as a CU student
 - CU IdentKey
 - Buff Portal
 - CU Email
 - Enrolling in classes
- Academic Resources
 - Clickers and Canvas
 - How to Prepare for Chemistry and Physics
- Health and Wellness Resources

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Where to Find Us



Continuing Education
1505 University Ave.
(303) 492-5148

As a non-degree student, Continuing Ed is your administrative home for:

- Advising
- Tuition, billing
- Residency questions
- Direct assistance and referrals when you need help navigating CU Boulder's policies and procedures.

Exception:

- The Financial Aid advisor for non-degree students is housed in the Office of Financial Aid – contact directly at cfinaid@colorado.edu


• *Pro Tip: Do NOT call the general number for the Office of Financial Aid. Most callers are degree-seeking students, and financial aid rules will be quite different for you!*

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Who's Who on Your Support Team

<p>Pre-Health Advising (Elisa and Jess)</p> <ul style="list-style-type: none"> ❑ Developing a strategic plan and timeline to become a strong applicant to professional school ❑ Reviewing your progress, helping you avoid pitfalls, suggesting next steps, providing referrals to activities and resources that will enhance your candidacy 	<p>Application and Interview Prep (Jess only)</p> <ul style="list-style-type: none"> ❑ 1:1 coaching on professional school application materials (personal statements, etc.) ❑ Practice interviews with feedback
<p>Academic Advising</p> <ul style="list-style-type: none"> ❑ Experts on CU Boulder's policies and procedures ❑ If you plan to take additional courses at CU Boulder after the post-bacc year ends, be sure to talk with an academic advisor about options and logistics 	<p>Career Advising</p> <ul style="list-style-type: none"> ❑ Tools for deepening your self-knowledge: MBTI assessment, Values card sorts, etc. ❑ Assistance with gap year job search, resumes, cover letters
	<p>Financial Aid Advising</p> <ul style="list-style-type: none"> ❑ Direct all questions about financial aid to Ashley Lamoureux in the Office of Financial Aid, cfinaid@colorado.edu

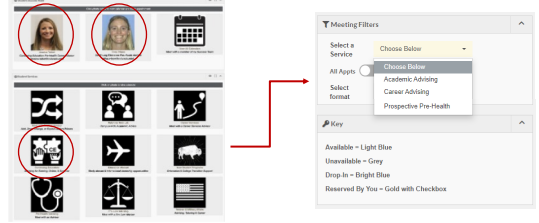
To schedule an appointment: use Buff Portal Advising or call 303-735-5148

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Buff Portal Advising: Online Appointment Scheduling

colorado.edu/buffportaladvising



Missing Filters

Select a Service: Choose Below

All Appointments: Pre-Health Advising, Academic Advising, Career Advising, Prospective Pre-Health

Key

Available - Light Blue
Unavailable - Grey
Drop In - Bright Blue
Reserved By You - Gold with Checkmark

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Our Responsibilities

We offer:

- Pre-health, career, and academic advising in a student-centered, supportive environment that respects nontraditional paths.
- We offer accurate information, strategic solutions, and compassion to help people identify their options and be able to make informed decisions about their academic and professional journeys.



Your Responsibilities

Engage fully

- Watch the entire video series
- Come in for at least two individual pre-health advising sessions per year
- Attend (or watch videos for) all group meetings
- Meet with CE academic advisors about logistics
- Get to know your professors (go to office hours)

Do your part

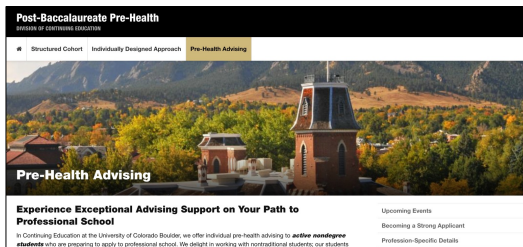
- Keep a running list of questions to ask
- Research the schools that interest you.
 - Prerequisites, LOR assortments

Plan Ahead

- High-quality advising requires thoughtful, strategic planning, rather than rushed decisions.

Resources: Continuing Ed Pre-Health Website

www.colorado.edu/CEprehealth



How to Get Started with Pre-Health Advising

1. You must be an active non-degree student at CU Boulder to be eligible for pre-health advising
2. Watch the entire CE Pre-Health video series in preparation for your first appointment
3. Email a link to your "Pre-Health Advising Notes" Google Sheet and all past college transcripts to ceprehealth@colorado.edu

**Former students are eligible for individual pre-health advising through Continuing Education if they completed at least 18 credit hours of pre-requisite courses as a non-degree student at CU Boulder.*



Continuing Education Advising
Check in at welcome desk on 1st floor
1505 University Ave, Boulder, CO
303-735-5148



Getting Started as a CU Boulder Student

Complete the following tasks after you are admitted as one of our students:

- Activate your CU IdentityKey (CU login name)
- Set-up your CU email account
- Familiarize yourself with Buff Portal
- Get your Buff OneCard
- Register with Disability Services if you believe you qualify for accommodations
- Meet with an academic advisor if you have questions about tuition, student fees (and how to waive them), establishing residency, and enrolling in classes



Main Campus vs. Continuing Education at CU Boulder

Main Campus (ACCESS)

- In-person/daytime classes
- Large lectures
 - Recitations
- Fall and spring enrollment begins a week before classes begin
 - "Unless it's a course with early enrollment privileges"
- The majority of the most common prereq classes are only available on main campus

Online/Evening

- Online = Asynchronous
- Evening = In-person and synchronous remote components
- Smaller class sizes
- Fall and spring enrollment begins at the same time as degree seeking students (no wait time)
- Looks just like main campus courses on your CU Boulder transcript
- Not all prerequisites are offered in this format

Summer Session

Enrollment opens for **all** courses in March



How to Interpret the Class Search (classes.colorado.edu)

EBIO 1210

General Biology 1

Last Updated: 10/18/2022, 2:28:13 PM

Credit Hours: 3

Maximum Enrollment / Seats Avail: Varies by section

Grading Mode: Student Option

Campus: Varies by section

Location: Varies by section

Instruction Mode: Varies by section

Session: Varies by section

Date: Varies by section

Class Nbr	Section #	Type	Campus	Meets	Instructor	Status
27907	001	LEC	Hybr	M/W 10:10-11a	T. Bernal	Open
39487	300E	LEC	CE	T 5:45-7:45p	C. Kelly	Open
39771	S01	LEC	CE	Meets online (see class notes)	K. Vincent	Open
39773	S02	LEC	CE	Meets online (see class notes)	K. Vincent	Open

CHEM 1113

General Chemistry 1

Last Updated: 10/18/2022, 2:28:13 PM

Credit Hours: Varies by section

Maximum Enrollment / Seats Avail: Varies by section

Grading Mode: Varies by section

Campus: Boulder Main Campus

Location: Boulder Main Campus

Instruction Mode: In Person

Session: Boulder Main Campus Semester

Class Nbr	Section #	Type	Campus	Meets	Instructor	Status
36214	100	LEC	Hybr	M/W 10:10-11a	E. Broering	Open
36224	200	LEC	Main	M/W 11:15a-12:05p	E. Broering	Open
36346	300	LEC	Main	M/W 8-8:50a	S. Handrickson	Open
36315	111	REC	Main	M 3:35-4:25p		Open
36316	112	REC	Main	M 4:40-5:30p		Open



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Prerequisite Approval and Early Enrollment Process

You need to get prereq approval when...

- If you completed the required prerequisites for a CU course at a different institution
- You need permission to enroll in a course that's restricted to students with certain majors
- You may need to work with an academic advisor to evaluate your transcripts

Main campus classes with early enrollment privileges in fall and spring

- The current list of courses with early enrollment privileges can be found on our website

The early enrollment window opens three weeks after the start of the enrollment period for main campus students

*Note that the early enrollment window closes mid-June for fall semesters

Refer to this page of our website for step-by-step instructions:
<https://www.colorado.edu/ceprehealth/individually-designed-approach/prerequisite-approvals-and-early-enrollment>



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Financial Considerations

Financial Aid:

- Federal financial aid tips for post-baccalaureate students:
 - Loans, not grants or scholarships
 - Federal student loans typically cover tuition but NOT living expenses
 - Non-degree financial aid is only available for one calendar year (3 consecutive terms)
 - You have to be enrolled 6+ credit hours of **required** prerequisite courses per term
 - You must complete 100% of all courses attempted each semester (no Is, Fs, or Ws)
 - Financial Aid questions? Contact admission@colorado.edu

Student Fees:

- You may opt out of most student fees by submitting the online fee waiver form
- Savings of around \$800 in the fall/spring, around \$600 in the summer
- Note that if you're planning on purchasing health insurance through the university, you will be required to pay the full student fee package
- If you choose to opt-out of the student fees package, you'll have to complete the process every semester that you're enrolled in classes

Scholarships (Individually Designed only):

- Eligible for a one-time Non-Degree Student Scholarship
- Maximum award is up to \$1,000 for a term



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Financial Considerations

Tuition:

- Differs for ACCESS (in-person/main campus), CE Evening, and CE Online classes
- Resident vs. non-resident tuition rates
- Make sure you refer to undergraduate tuition rates

Residency:

- Eligibility
 - Physically present in Colorado for at least 12 months prior to the start of classes in a given academic term
 - CO license (or ID) within 120 days of move; CO vehicle registration within 180 days of move; State of CO voter registration
 - Please connect with one of our residency classification professionals for more information (residency@colorado.edu)

College Opportunity Fund (COF)

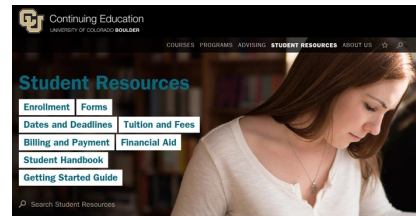
- Higher education state stipend that is given to Colorado residents for certain classes
- Stipend is a per credit hour amount; the amount changes every year
- You must be classified as a CO resident
- Important note: You must apply AND authorize COF when you enroll in classes



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Resources: Continuing Education website

ce.colorado.edu/resources



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Thoughts for the Journey Ahead

Goals:

- **To be a good, well-educated human who will apply your knowledge in service to others**
 - Content knowledge, skill expertise, interpersonal skills with patients and colleagues
- **To be your best version of yourself**
 - Don't need to fit a "cookie-cutter" image of a professional school applicant
- **Remember: You are playing the long game.**
 - Not a race, not a competition. Make friends with other pre-health students. Support each other.
 - School can take up a lot of time; schedule opportunities to do the things that make you whole.
 - Keep perspective: No single factor is going to make or break your candidacy.
 - Each person has their unique goals, challenges, setbacks, successes.
 - Everyone's path and timeline is different.
 - It is always valid to change course as you gather more information.
 - Be a good financial steward. Take care of your financial health.



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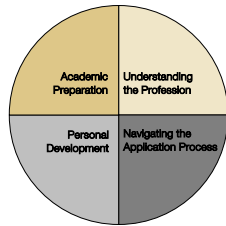
Pre-Health Preparation: How to Become a Strong Applicant

*Part 2:
Developing Your Understanding of
the Profession*



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Four Areas of Pre-Health Preparation



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Developing Your Understanding of the Profession

1. Job shadowing with variety of clinicians
2. Direct patient interaction
3. Educating yourself on social factors influencing your profession of interest

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Developing Your Understanding of the Profession

1. Job shadowing with variety of clinicians

Recommended minimum:

One day each (6+ hours) with 4-5 healthcare providers:

- Primary care
- Medical specialty
- Surgical specialty
- At least one healthcare professional in another field

- Refer to *handout packet* for suggestions for getting the most out of shadowing

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Developing Your Understanding of the Profession

1. Job shadowing
2. **Direct patient interaction**
 - Interact directly with sick/injured patients in a clinical setting.
 - Develop your bedside manner
- Refer to *Quick Facts* handout for guidelines for typical amount of patient interaction experience for competitive applicants for your field
 - **Most healthcare fields:** 1+ years, ~4 hours per week
 - **PA and Vet:** 1000 to 2000 hours of paid patient care experience
 - Medical assistant, CNA, EMT, phlebotomist, veterinary assistant

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Developing Your Understanding of the Profession

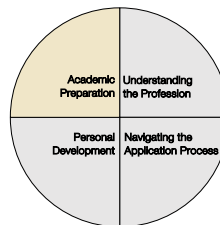
1. Job shadowing
2. Direct patient interaction
3. **Educating yourself on social factors influencing your profession of interest**
 - Cultivate the habit of independent learning on the science of medicine
 - Educate yourself on issues pertaining to socioeconomic health disparities and unequal access to care
 - Learn about the principles of ethical decision-making in clinical settings
 - Understand how our healthcare delivery system is changing

... Suggested readings provided on *Reading List for Aspiring Clinicians* handout

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Pre-Health Preparation: How to Become a Strong Applicant

Part 3: Academic Preparation



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Academics

Big picture objectives for your academic preparation

To develop/demonstrate your:

- Study skills
- Test-taking skills
- Time management habits
- Background knowledge

... As needed to succeed in a rigorous (~20 credit hours/semester) professional school curriculum.



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Academics

Topics:

- Academic performance goals
 - Strategic courseloads for pre-health post-baccalaureate students
 - Tips on course sequencing
 - Preparing for chemistry and physics
- Making a term-by-term plan
 - Field-specific prerequisites
 - Why you should consider taking additional upper-division science beyond the prereqs
- Answers to common questions
- Resources for academic support



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Academics

Academic performance goals

- Mostly As, perhaps a couple of Bs (and nothing lower than a B)
- Refer to *Quick Facts* document to see national averages for GPAs of students accepted to professional school in your field of interest



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Academics

If your past grades are below the competitive mark for your field, you can redeem yourself now:

- At least 2 years straight of consistently strong grades at the undergraduate level, while taking 9+ science credit hours per semester*
 - * If you've already completed the prerequisites, take upper-division science electives

and/or

- At least 1 full-time year in graduate-level sciences (there are many options for **master's** level post-baccalaureate pre-health programs – use AAMC post-baccalaureate program search engine (many are willing to accept any pre-health student, not just pre-meds))

... Although your cumulative undergraduate GPA will still be lower than average, your strong recent academic performance will demonstrate your readiness for professional school.



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Academics

Tips for Academic Success

- **Choose appropriate courses.**
 - Make sure you have the foundational knowledge needed for success in each course
 - Don't try to skip past CU Boulder's course prerequisites.
 - Math preparation for Chemistry and Physics
 - Don't move on to the next course in a sequence until you have truly mastered the foundational coursework.
- **Choose appropriate courseloads.**



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Academics

Tips on course sequencing

- **Top priority: Math courses** needed to be ready for General Chemistry and Physics
 - Minimum:* 1. Mastery of College Algebra or Precalculus (Gen Chem, Physics)
 - 2. Mastery of Trigonometry or Precalculus (Physics)
- **Next priority: Chemistry**
 - Many of the doctoral-level health fields require up to 5 sequential semesters of chemistry (6 semesters if you start with Introductory Chem, which we recommend)
 - You *must* prepare for Gen Chem 1
 - Chemistry placement assessment: First homework assignment in Gen Chem 1
- **Front-load science courses that will be on standardized entrance exam** if taking MCAT, DAT, OAT, or PCAT, then take additional prerequisites after that.
 - Include test prep period in your timeline

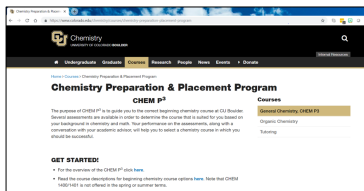


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Academics

Preparing for Chemistry and Physics

- Detailed Information in Student Handbook



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Academics

Tips for Academic Success

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- Choose appropriate courseloads.

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Academics

What is a "normal" full-time post-bacc coursework?

(If you can devote 50-60+ hours/week on academics ...)

Fall/Spring

- 13 credit hours per semester, consisting of:
 - 3 math/science lectures
 - No more than 2 labs
- And ~10 hours/week, total, on:
 - Employment, clinical experience, committed volunteer work, research, service to others

Summer

- 1 science course in A Term, 1 science course in B Term

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Academics

Prerequisite Coursework

Be aware:

- Each school sets its own list of prerequisite courses. I have provided a list of common prerequisites for your field, with CU Boulder course numbers. However, you must research the specific prerequisites at each of your schools of interest.
 - Start a spreadsheet
- Most schools require a grade of "C" or above (not "C-") for each prerequisite.
- Not all schools accept AP/IB credit to fulfill prerequisites (most are willing to do so for non-science prerequisites, but check this detail at each of your schools of interest)
- Not all schools accept online coursework for prerequisites (especially unlikely for science lectures and labs)
- Some schools set "expiration dates" (typically in the 5-10 year range) on prerequisites

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Academics

Refer to field-specific list of prerequisites

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Academics

Making a Term-by-Term Coursework Plan

Make this a top priority as you get started

- Your pre-health advisor can help you get started on this plan.
- Your academic advisor can help with logistical considerations to implement the plan.

Be sure to incorporate the following into the plan:

- ~2-3 months for standardized test prep
- Timing of common application, supplemental applications

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Academic Resources

www.classes.colorado.edu



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Academics

Why should I consider taking additional elective science courses?

- **Improves your candidacy:**
 - It is possible to be accepted with just the minimum number of science courses, but, nationwide, the vast majority of accepted students have taken *at least 2* additional upper-division sciences beyond the minimum prerequisites.
- **Prepares you to excel in first year of professional school**
 - Especially useful:
 - *Human Anatomy with cadaver lab*
 - *Human Physiology*
 - *Immunology*
 - *Statistics*
 - *Biochemistry*

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Academics

Answers to common questions

- What if I already took a prerequisite course on a pass/fail basis and passed it?
- Would it be terrible to withdraw from a course after the drop period ends?
- Can I take some of my prerequisites ...
 - In the summer?
 - At a community college?
 - Abroad?
- What if I don't get the GPA I am hoping for?

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Academics

What if I don't get the GPA I am hoping for?

It is **normal** for successful, high-achieving students to have a period of adjustment when they take new science courses at a new school, especially if you're a bit rusty at first.

Give yourself time to adjust to new expectations and format.

- Ask yourself: "Am I feeling highly motivated to figure out how to master these science courses, or am I dreading more science?"
 - **Dreading more science:**
 - *Career advising:* Clarify personal values and strengths as they relate to selecting a fulfilling, rewarding career
 - **Excited about science:**
 - *Identify what is holding you back. Make changes. Do not keep digging hole deeper.*
 - Would it be more strategic for you to complete these courses on a less-aggressive timeline?

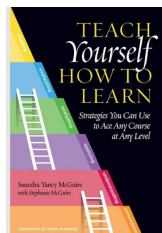
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Academic Resources

Individual Study Skills Coaching

- Available to Continuing Ed students at no cost
- Ask an academic advisor for more information

... and read this book!



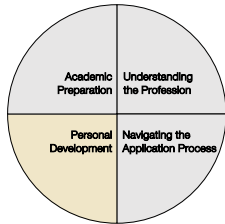
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Academic Resources

Disability Services


- If you believe you qualify for accommodations, start the process several weeks before your first academic term at CU Boulder begins.
- Getting accommodations while taking prerequisites is needed to qualify for accommodations for standardized entrance exam (MCAT, etc.) and for professional school.

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Pre-Health Preparation:
How to Become a Strong Applicant

Part 4: Personal Preparation

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Personal Attributes and Experiences


Relevant experiences include **any** formal positions that have allowed you to develop/demonstrate your ...

- **Intellectual curiosity** (beyond what is required to get good grades)
 - *Pre-MD: Important to engage in hypothesis-driven research (tips in Student Handbook)*
- **Authentic commitment to direct service to others, with lovely interpersonal skills**

Especially valued:

 - Service to people whose backgrounds and beliefs are very different from your own
 - Formal leadership roles and collaboration roles
- **Other personal strengths** that will be relevant to your future work as a clinician

- ***Pre-Vet* Commitment to caring for animals** (in addition to clinical experience)

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Personal Attributes and Experiences

Have you encountered a clinician who has set the standard for your understanding of truly outstanding patient care?

If so, what are they doing that makes them so great at their work?

- Jot down a quick list.
- Use the list you just made as a guide for the strengths you want to be able to express.
 - How have your past experiences allowed you to develop some of those same strengths, albeit in different contexts?
 - Which abilities do you want to cultivate intentionally, starting now?


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Personal Attributes and Experiences

Address any areas still needing more development:

Core Competencies for Pre-Health Students
(in handout packet)

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Personal Attributes and Experiences

Advice for the Personal Development aspect of your preparation:

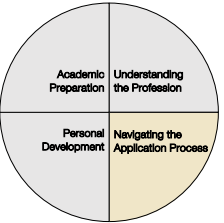
Starting now (if you aren't already involved):

Commit to a weekly volunteer role (typically 2-4 h/wk) that will allow you to address gaps in your preparation.

 Volunteer Resource Center
UNIVERSITY OF COLORADO BOULDER
volunteer.colorado.edu


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Pre-Health Preparation:
How to Become a Strong Applicant

Part 5: How to avoid common errors in the application process

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Strategically Navigating the Application Process

- **Application timing**
 - Which year to apply?
 - Strategic timing of each step in the application process
- **Standardized Tests**
- **Choosing a strategic list of schools**
- **Letters of recommendation**
- **Preparing compelling application materials**
- **Interview prep**

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Strategically Navigating the Application Process

Which year to apply?

When you have done all that it takes to be a strong applicant!

- Strong grade trend
- Sufficient time to prepare well for standardized test
- Strong history of clinical experience, ability to clearly articulate why you are committed to patient care and *this* particular profession
- Strong history of non-clinical service to others, with robust evidence of strong interpersonal skills and a clear commitment to a life of service to others
- Evidence of each of the entry-level competencies, especially for any listed as "Other Desired Traits and Experiences" in *Quick Facts* document

Refer to our Self-Assessment document on the "Becoming a Strong Applicant" page on website

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Strategically Navigating the Application Process

Strategic timing of each step in the application process

- Apply a little over one year in advance of matriculation
- If applying to schools with aggressive rolling admissions processes, apply within the first 2-4 weeks of the application season
- Refer to "Recommended Application Timing" section of *Quick Facts* document for details.

Components of a Complete Application

1. Common (primary) application
2. School-specific supplemental application
3. Standardized test score (takes about a month for score reports to be sent out)
4. Letters of recommendation
5. Commonly required: Situational judgment test (Casper, Preview)

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Strategically Navigating the Application Process

MCAT, DAT, and OAT

- Be aware: These tests are the real deal!
- They are long, challenging, subject-based tests. (List of topics in *Quick Facts*.)
- On average, those who earn a competitive score have spent 300-400+ hours (say, 30-40 hours per week for 10 weeks) preparing for the test, including several practice tests.
- Most post-baccs study on own, without taking an expensive test prep course.
- We maintain lists of test prep suggestions for MCAT and DAT.

GRE

- Similar to SAT and ACT: high school math, reading and vocab, writing
- Plan to spend ~150 hours on GRE prep, including several practice tests.

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Strategically Navigating the Application Process

Choosing a Strategic List of Schools

- Refer to *Quick Facts* document:
 - Name of reference guide(s) for school selection
 - Recommended number of schools to which to apply in a given application year.
 - Do not exceed 15 schools, total (unless you pre-write supplemental app essays)
 - Why? Cost, lack of time to complete supplementary app essays
- Public school(s) in your state of residency + mostly private schools
- Come to our group meeting on this topic for ~2 hours of detailed information

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Attend Professional School Information Sessions

University of Colorado Anschutz Campus Aurora, CO

Medicine (M.D.)
Dentistry
Pharmacy
Nursing
Physical Therapy
Physician Assistant
Certified Anesthesiologist Assistant



Seek out virtual fairs
Offered annually or biannually by the professional organizations for most of the healthcare fields

Regis University Denver, CO

Nursing
Pharmacy
Physical Therapy



Rocky Vista University Parker, CO

Medicine (D.O.)
Physician Assistant



Colorado State University Fort Collins, CO

Veterinary Medicine



Red Rocks Community College Arvada, CO

Physician Assistant (master's degree)



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Strategically Navigating the Application Process

Letters of Recommendation

- Recommended assortment listed in *Quick Facts* document
- Need to get to know 1-2 CU Boulder profs!
- Consider opening (free) 3rd party letter storage service: Interfolio is popular
 - Advisors can check formatting
 - Interfolio can send letters directly to AMCAS, AACOMAS, and AACOMAS.

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Strategically Navigating the Application Process

Preparing Compelling Application Materials

- Get started over winter break, plan on many revisions over time
- Two-part Pre-Application Workshop series in fall semester
- Individualized feedback and coaching on your personal statement, experience descriptions, and supplemental application essays

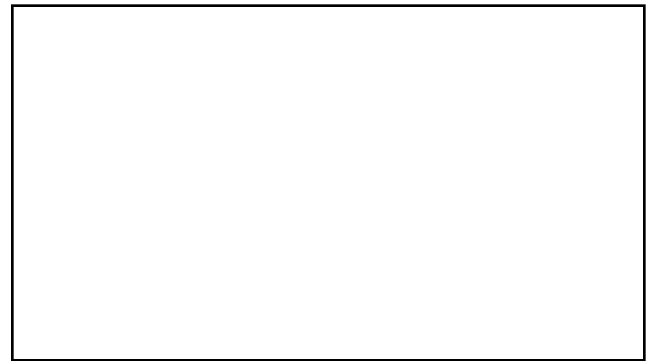
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Strategically Navigating the Application Process

Interview Preparation

- Interview Strategies presentation
- Biomedical Ethics presentation
- Multiple Mini Interview practice session
- Individual interview prep
 - Complete *at least* 1-2 mock interviews before first real interview

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Guidelines for getting the most out of your clinical shadowing experiences

*adapted from the work of Laurence A. Savett, M.D., retired pre-health advisor,
formerly at Macalester College and University of St. Thomas*

Among the most important choices in life is that of a career and life's work. This single choice is influenced by one's values, aspirations, self-assessments, and personal expectations, as well as evaluations of the uncertainties and costs—time and money—on one's personal and family life. The choice of a career in health care is all of that! It is, in a word, complex.

In order to learn *what it's like* to be a clinical health care professional, you should observe *how clinicians in your intended field spend their days* and *how they approach their work*.

We suggest that you pay attention to the following logistical factors in the work of the clinicians you observe. How do they:

- Allow time for the unexpected?
- Stay current in the profession?
- Address uncertainty?
- Integrate personal and professional life?

We also encourage you to think deeply about the example each clinician sets for their approach to caring for patients. After each shadowing experience, consider the following questions:

- What did I learn from observing interactions with the patient about:
 - The patient's illness?
 - What is going on in the patient's life that may have importance in dealing with the illness?
 - The clinician-patient relationship?
 - The importance of spending enough time?
 - The importance of engaged listening without interruption?
 - How the healthcare provider reasons and makes decisions?
- What did I learn, not only *about* the patient, but *from* the patient? What did the patient teach me?
- What did I learn about what it's *really* like to be a clinician?

A broad question for you to consider after each shadowing experience is, *What did I learn?* There a lot to learn from clinicians, from the patients, and from the patients' families. Experienced clinicians know that patients and families are important teachers.

If the clinician whom you are shadowing is open to sitting down with you to discuss the above matters at the end of your shadowing day, you can gain additional insights. You may want to share these guidelines at the beginning of your shadowing experience so that you may have shared goals. Most professionals appreciate the opportunity to reflect and teach.

We suggest that you keep a journal of your experiences and reflections. Writing down observations and reflections is a valuable way to process your learning experiences and to keep records in preparation for the application process.

How Do I Shadow a Doctor?

Shadowing a doctor is a great way to find out if a career in medicine might be right for you. It'll give you a better understanding of what a doctor's typical day is like, and may give you good experience to talk about in your applications and interviews for medical school. It's also a great way to gain familiarity with the vast number of different medical and research environments, as well as specialties.

How do I find a doctor to shadow?

If you have a relationship with your own doctor, or know any doctors, start by asking them. Likely, this will be your strongest and best resource to find a shadowing opportunity. You can also ask your teachers, professors, and pre-med or academic advisors if they know any doctors that other students have shadowed in the past. If you're in college, leverage any relationships your school may have with a medical school or hospital on campus. It's also okay to contact hospitals through their volunteer office, or search online for local doctors with specialties that interest you. Call their office or email them at least a few weeks before you'd like to begin shadowing.

How should I ask them?

Express why you want to shadow this person specifically. Maybe someone recommended them or maybe they practice a specialty that interests you. Briefly tell them where you go to school, any medical or research experiences you've had, and your goals. Be courteous and professional. Many doctors welcome opportunities to talk to students, so if you get turned down, ask other doctors.

How long should I shadow?

Arrange something that fits both the doctor's schedule and your level of interest. You may only want to spend one day with them, or you may want to shadow a few hours a week for several weeks or months. If you have the time in the summer or over a break, you may want to shadow full time for an entire week. Find out what the doctor is comfortable with or what has worked well in the past.

What should I wear and what should I bring?

Dress professionally and comfortably: dress pants and a tie for men, dress pants or a dress for women, and closed-toed shoes you can walk in all day. Bring a notebook. Ask questions and take notes in between patients, not in front of them, and prepare some questions ahead of time.

Should I talk to patients?

The doctor is required to introduce you to each patient and explain that you are a pre-medical student, so expect to talk to patients. Some people may be uncomfortable having you in the room during an examination or the entire appointment, so you may be asked to step out. Other patients may ask you questions about yourself, school or your plans to become a doctor. In either case, it's important that you keep all patient information private. You may be required to sign a HIPAA compliance document stating that you will not disclose any patient information or details that could lead to patient identification.

What should I do afterwards?

Write a thank you note to give the doctor on your last day that thanks them for their time. If you think it went well, ask for a letter of recommendation right away. Don't wait until you need it because the experience may not be fresh in the doctor's mind by that time. Reflect on what you've learned from your shadowing experience and write down anything you may want to remind yourself of when you're writing your personal statements for medical school.

FOR MORE INFORMATION PLEASE VISIT:

KevinMD.com: www.kevinmd.com/blog/2010/06/tips-students-shadow-doctors.html



READING LIST FOR ASPIRING CLINICIANS

Stay up-to-date on current healthcare topics:

- The *New York Times*' online Health section offers current, interesting, health-related news stories.

Be aware of issues pertaining to health disparities and unequal access to health care

- Do an online search for *Access to and Quality of Health Care*, by José J. Escarce and Kanika Kapur, which summarizes the main factors that can prevent people from accessing health care. (Although this article focuses on Hispanics in the U.S., their conclusions apply to the experiences of anyone in a group that experiences barriers to health care.)
- The *CDC Health Disparities and Inequalities Fact Sheet* provides a comprehensive introduction to the main issues in the topic area of health disparities
- Specific topic areas:
 - Minority health: <https://www.cdc.gov/minorityhealth/>
 - Healthcare and homelessness: <https://www.nhchc.org/resources/general-information/faq/>
 - Trans health: <https://www.amsa.org/advocacy/action-committees/gender-sexuality/transgender-health/>
- The CDC's Health Equity Blog provides a number of interesting readings on these topics

Be ready to discuss biomedical ethical topics

- Read *A Practitioner's Guide to Ethical Decision Making*, by Holly Forester-Miller and Thomas Davis for a solid introduction to this topic area (https://www.counseling.org/docs/ethics/practitioners_guide.pdf?sfvrsn=2).
- The editors at JSTOR have created the following guide to essential readings in the field of bioethics: https://daily.jstor.org/bioethics-key-concepts-research/?utm_term=ESSENTIAL_READINGS_IN_BIOETHICS&utm_campaign=jstordaily_03152018&utm_content=email&utm_source=Act-On_Internal&utm_medium=email
- The University of Washington School of Medicine's *Ethics in Medicine* website discusses each of the main categories of biomedical ethical topics
- The *AMA Journal of Ethics* releases an issue each month that delves into a variety of specific biomedical ethical topics
- Do an online search for a profession-specific ethics handbook for your desired field.

Health Care Reform

- Be conversationally familiar with the main provisions in the Affordable Care Act and the rationale behind them. Start here for a balanced introduction to this topic: <https://healthcare.procon.org/>

Additional topic area for pre-dental students:

Be aware of the relationships between oral health and systemic health:

- As a starting point, this webpage provides a general overview: <http://www.mayoclinic.org/healthy-lifestyle/adult-health/in-depth/dental/art-20047475?pg=2>
- Next, search for more information on topics that interest you on the ADA website: <http://www.ada.org/en/member-center/oral-health-topics>

Core Competencies for Entering Professional School Students in Healthcare

(adapted from the Association of American Medical Colleges' list of core competencies)

Aim to comment upon behaviors you've directly observed from three or more of the categories on this list, providing specific, illustrative supporting examples/anecdotes.

Understanding of and suitability for the profession:

- If you have interacted with this applicant in a clinical setting, please describe what you have observed of the candidate's understanding of the realities of the profession, their expression of intellectual curiosity in the clinical setting, and their approach to interacting with patients and staff.

Service Orientation

- Showing a commitment to something larger than oneself; demonstrating dedication to service and a commitment to making meaningful contributions that meet the needs of communities.

Empathy and Compassion

- Recognizing, understanding, and acknowledging others' experiences, feelings, perspectives, and reactions to situations; being sensitive to others' needs and feelings; and demonstrating a desire to help others and alleviate others' distress.

Cultural Awareness

- Appreciating how historical, sociocultural, political, and economic factors affect others' interactions, behaviors, and well-being; valuing diversity; and demonstrating a desire to learn about different cultures, beliefs, and values.

Cultural Humility

- Seeking out and engaging diverse and divergent perspectives with a desire to understand and willingness to adjust one's mindset; understanding a situation or idea from alternative viewpoints; reflecting on one's values, beliefs, and identities and how they may affect others; reflecting on and addressing bias in oneself and others; and fostering a supportive environment that values inclusivity.

Interpersonal Skills

- Demonstrating an awareness of how social and behavioral cues affect people's interactions and behaviors; adjusting behaviors appropriately in response to these cues; recognizing and managing one's emotions and understanding how emotions impact others or a situation; and treating others with dignity, courtesy, and respect.

Teamwork and Collaboration

- Collaborating with others to achieve shared goals and prioritizes shared goals; adjusting role between team member and leader based on one's own and others' expertise and experience; sharing information with team members and encouraging this behavior in others; and giving and accepting feedback to improve team performance.

Oral Communication

- Effectively conveying information to others using spoken words and sentences; actively listening to understand the meaning and intent behind what others say; and recognizing potential communication barriers and adjusting approach or clarifying information as needed.

Ethical Responsibility to Self and Others

- Behaving with honesty and integrity; considering multiple and/or conflicting principles and values to inform decisions; adhering to ethical principles when carrying out professional obligations; resisting pressure to engage in unethical behavior; and encouraging others to behave honestly and ethically.

Reliability and Dependability

- Demonstrating accountability for performance and responsibilities to self and others; prioritizing and fulfilling obligations in a timely and satisfactory manner; and understanding consequences of not fulfilling one's responsibilities to self and others.

Resilience and Adaptability

- Persevering in challenging, stressful, or ambiguous environments or situations by adjusting behavior or approach in response to new information, changing conditions, or unexpected obstacles, and recognizing and seeks help and support when needed; recovering from and reflects on setbacks; and balancing personal well-being with responsibilities.

Commitment to Learning and Growth

- Practicing continuous personal and professional growth for improvement, including setting and communicating goals for learning and development; reflecting on successes, challenges, and mistakes; pursuing opportunities to improve knowledge and understanding; and asking for and incorporating feedback to learn and grow.

Critical Thinking

- Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.

Quantitative Reasoning

- Applying quantitative reasoning and appropriate mathematics to describe or explain phenomena in the natural world.

Scientific Inquiry

- Applying knowledge of the scientific process to integrate and synthesize information, solve problems, and formulate research questions and hypotheses; being facile in the language of the sciences and using it to participate in the discourse of science and explaining how scientific knowledge is discovered and validated.

Written Communication

- Effectively conveying information to others by using written words and sentences.

Living Systems

- Applying knowledge and skill in the natural sciences to solve problems related to molecular and macro systems, including biomolecules, molecules, cells, and organs.

Human Behavior

- Applying knowledge of the self, others, and social systems to solve problems related to the psychological, sociocultural, and biological factors that influence health and well-being.

Factors that would allow the applicant to make unique contributions to the profession

- **If applicable, describe obstacles that the applicant had to overcome** and how those obstacles led to new learning and growth.
- **If applicable, explain how the applicant may contribute to a professional school's diversity**, broadly defined (e.g., background, attributes, experiences, etc.)