Health Careers Advising Program

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Cornell Career Services
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Today we will…

• Explain how health careers advising works at Cornell
• Answer some frequently asked questions (FAQ)
• Talk briefly about what professional schools WANT and how Cornell’s resources can help
• Take your questions
Who’s Here?

• College/potential major?

• In which area of health are you interested?
  – Medicine
    • Allopathic
    • Osteopathic
  – Dentistry
  – Still exploring?
Health Careers Advising Program

• Individual Advising
  – Walk-in or by appointment

• Programs
  – Summer activities, sophomore orientation, application support

• Events
  – Medical school visits and information sessions, military scholarship information session, DO information night, suture clinic (sponsored by the US Army)

• Recruiting
  – Host potential employers: physicians, research institutes, scribe companies
People

• Health Careers Advisors
  – University Health Careers Advisor in 103 Barnes Hall
  – Health Careers Advising Network
    • Office of Undergraduate Biology
    • A&S – Ana Adinolfi
    • CALS – Cate Thompson
    • Human Ecology – Paula Jacobs
    • Engineering – Megan Gallagher

• Faculty Advisors

• College Advising Office

• Professors/Other Administrators

• Health Careers Evaluation Committee (Letter of Evaluation Service)
Just a few of the pre-health student organizations:

- Phi Delta Epsilon
- eMed
- MedLife
- Alpha Epsilon Delta
- Pre-dental Society
- PATCH (Pre-professional Association Toward Careers in Health)
- WIN (Weill Ithaca Network)
- BBMTA
FAQs

- What courses should I take?
- What can (or should) I major in?
- What are medical, dental, nursing, and optometry schools looking for?
- How competitive are medical/dental schools?
- Where can I find the guidance I may need?
What Courses Should I Take?

• Cornell Coursework
  – College and major requirements

• MCAT Preparation

• Medical School Pre-requisites
  – See the Course Requirements pages in the Guide
### Cornell Courses that Satisfy Most Medical and Dental School Requirements

<table>
<thead>
<tr>
<th>Subject</th>
<th>Cornell University Courses</th>
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</thead>
<tbody>
<tr>
<td><strong>Biology</strong></td>
<td>Option 1</td>
</tr>
<tr>
<td></td>
<td>BIOMG 1350 Introductory Biology: Cell and Developmental Biology</td>
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<tr>
<td></td>
<td>AND BIOL 1440 or 1445 Introductory Biology: Comparative Physiology</td>
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<tr>
<td></td>
<td><em>“BIOL 1445 is an individualized instruction format course.”</em></td>
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<tr>
<td></td>
<td>AND BIOL 1500 Investigative Biology Laboratory</td>
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<tr>
<td></td>
<td>Option 2</td>
</tr>
<tr>
<td></td>
<td>Offered summer only</td>
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<tr>
<td></td>
<td>BIOL 1107 Introductory Biology I: From Atom to Cell</td>
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<tr>
<td></td>
<td>AND BIOL 1108 Introductory Biology II: From Cell to Biosphere</td>
</tr>
<tr>
<td></td>
<td>AND BIOL 1500 Investigative Biology Laboratory</td>
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<tr>
<td><strong>Biochemistry</strong></td>
<td>Any of the following:</td>
</tr>
<tr>
<td></td>
<td>• BIOMG 3310 Principles of Biochemistry: Proteins and Metabolism (offered fall)</td>
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<td></td>
<td>AND BIOMG 3320 Principles of Biochemistry: Molecular Biology (offered spring)</td>
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<tr>
<td></td>
<td>• BIOMG 3300 Biochemistry, Individualized Instruction (offered fall, spring)</td>
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<tr>
<td></td>
<td>• BIOMG 3350 Principles of Biochemistry: Proteins, Metabolism, and Molecular Biology (offered spring)</td>
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<tr>
<td></td>
<td>• NS 3200 Introduction to Human Biochemistry (offered fall)</td>
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<tr>
<td></td>
<td>• BIOMG 3330 Principles of Biochemistry: Proteins, Metabolism, and Molecular Biology (offered summer)</td>
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<tr>
<td><strong>Upper-level Biology</strong></td>
<td>Although not required, students find that taking courses in the following areas is useful in understanding advanced concepts and providing greater depth of preparation for MCAT exams:</td>
</tr>
<tr>
<td></td>
<td>• BIOMG 2800 Genetics Lecture (offered fall, spring, summer)</td>
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<td></td>
<td>• BIOMG 2801 Genetics Lab</td>
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<tr>
<td></td>
<td>• BIOMI 2900 General Microbiology Lectures (offered fall, spring, summer)</td>
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<tr>
<td></td>
<td>• NS 3410 Human Anatomy and Physiology (offered spring)</td>
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<tr>
<td></td>
<td>• NS 3420 Human Anatomy and Physiology Laboratory (offered spring)</td>
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<tr>
<td></td>
<td>Other courses in the areas of cell biology, evolutionary biology, genetics, microbiology, neurobiology, behavior, nutrition, and physiology may be useful. Students are encouraged to consult with a health careers advisor to select courses.</td>
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<tr>
<td><strong>General Chemistry</strong></td>
<td>Option 1</td>
</tr>
<tr>
<td></td>
<td>CHEM 2070 General Chemistry I (offered fall, summer)</td>
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<tr>
<td></td>
<td>AND CHEM 2080 General Chemistry II (offered spring, summer)</td>
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<td></td>
<td>Option 2</td>
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<tr>
<td></td>
<td>CHEM 2150 Honors General and Inorganic Chemistry (offered fall)</td>
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<tr>
<td></td>
<td>• An accelerated one-semester course leading directly to organic chemistry</td>
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<tr>
<td></td>
<td>• An AP score of 5 on Chemistry is highly recommended</td>
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<tr>
<td></td>
<td>• Some medical schools require a full-year of general chemistry</td>
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<tr>
<td></td>
<td>Option 3</td>
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<tr>
<td></td>
<td>For Engineering College Students Only</td>
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<tr>
<td></td>
<td>CHEM 2090 Engineering General Chemistry (offered fall, spring)</td>
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<tr>
<td></td>
<td>AND CHEM 2080 General Chemistry II (offered spring, summer)</td>
</tr>
<tr>
<td><strong>Organic Chemistry</strong></td>
<td>Option 1</td>
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<tr>
<td></td>
<td>CHEM 3570 Organic Chemistry for the Life Sciences (offered fall, summer)</td>
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<tr>
<td></td>
<td>AND CHEM 3580 Organic Chemistry for the Life Sciences (offered spring, summer)</td>
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<tr>
<td></td>
<td>AND CHEM 2510 Introduction to Experimental Organic Chemistry (offered fall, spring, summer)</td>
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<tr>
<td></td>
<td>Option 2</td>
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<tr>
<td></td>
<td>CHEM 3590 Honors Organic Chemistry I (offered fall)</td>
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<tr>
<td></td>
<td>AND CHEM 3600 Honors Organic Chemistry II (offered spring)</td>
</tr>
<tr>
<td></td>
<td>AND CHEM 2510 Introduction to Experimental Organic Chemistry (offered fall, spring, summer)</td>
</tr>
</tbody>
</table>
# Medical School Pre-Requisites

| Option 3 | CHEM 3530 Principles of Organic Chemistry *(offered fall)*  
<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AND CHEM 2510 Introduction to Experimental Organic Chemistry <em>(offered fall, spring, summer)</em></td>
</tr>
</tbody>
</table>
|          | • A single-semester organic chemistry course  
|          | • Some medical schools require a full-year of organic chemistry  
|          | • Schools that do not require a full-year organic chemistry sequence usually require a one-semester biochemistry course, possibly with lab.  
|          | • Students are encouraged to explore requirements of medical schools before enrolling in this course. |

**English**

Most medical schools will accept First-Year Writing Seminars (FWS) in fulfillment of their writing requirement. Some medical schools, however, specifically require English Literature to fulfill their writing requirement. For example, Cornell Well requires one writing course focused on “English-language literature”. Students who plan to apply to such schools should take either their FWS or advanced courses in the Department of English.

**Math**

Choose one course each area:

- **Calculus**
  - MATH 1106 Calculus for the Life and Social Sciences *(offered spring)*
  - MATH 1110 Calculus I *(offered fall, spring, summer)*

- **Statistics**
  - STSCI 2150 Introductory Statistics for Biology *(offered fall, spring)*
  - BTRY 3010 Biological Statistics I *(offered fall)*
  - MATH 1710 Statistical Theory and Application in the Real World *(offered fall, spring)*
  - AEM 2100 Introductory Statistics *(offered fall)*
  - ILRST 2100 Introductory Statistics *(offered fall, winter, spring, summer)*
  - PSYCH 3500 Statistics and Research Design *(offered fall, summer)*
  - ECON 3130 Statistics and Probability *(offered fall)*
  - SOC 2010 Evaluating Statistical Evidence *(offered fall)*

- **General Physics**

| Option 1 | Individualized instruction, not calculus-based  
|----------|---------------------------------------------------------------|
|          | PHYS 1101 General Physics I *(offered fall, summer)*  
|          | AND PHYS 1102 General Physics II *(offered spring, summer)* |

| Option 2 | Calculus-based  
|----------|---------------------------------------------------------------|
|          | PHYS 2207 Fundamentals of Physics I *(offered fall)*  
|          | AND PHYS 2208 Fundamentals of Physics II *(offered spring)* |

| Option 3 | PHYS 1112 Physics I: Mechanics & Heat *(offered fall, spring, summer)*  
|----------|------------------------------------------------------------------------------------------------------------------------------------|
|          | AND PHYS 2208 Fundamentals of Physics II *(offered spring)*  

| Option 4 | For Engineering College Students  
|----------|------------------------------------------------------------------------------------------------------------------------------------|
|          | PHYS 1112 Physics I: Mechanics & Heat *(offered fall, spring, summer)*  
|          | AND PHYS 2213 Physics II: Electromagnetism *(offered spring)*  
|          | AND PHYS 2214 Physics III: Oscillations, Waves, and Quantum Physics *(offered fall, spring, summer)*  
|          | • Crossovers between 1101/2208 and 2207/1102 are acceptable; consult the Physics website or the Director of Undergraduate Studies (DUS). |

**Social Science**

One semester each of Psychology and Sociology is required. Relevant courses can be found in the departments of Sociology, Psychology, Human Development, and Development Sociology. Consult with a health careers advisor to identify appropriate courses.
What Can (or Should) I Major In?

- There’s no one answer to this question.
- All majors are accepted by medical schools

National Applicants and Matriculants to Medical Schools, 2015

<table>
<thead>
<tr>
<th>Major</th>
<th>Applicants</th>
<th>Matriculants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>52,550</td>
<td>20,631</td>
</tr>
<tr>
<td>Biological Sciences</td>
<td>27,653</td>
<td>10,675</td>
</tr>
<tr>
<td>Other</td>
<td>9,939</td>
<td>3,601</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>5,629</td>
<td>2,277</td>
</tr>
<tr>
<td>Physical Sciences</td>
<td>5,012</td>
<td>2,319</td>
</tr>
<tr>
<td>Humanities</td>
<td>2,160</td>
<td>1,057</td>
</tr>
<tr>
<td>Specialized Health Sciences</td>
<td>1,596</td>
<td>494</td>
</tr>
<tr>
<td>Mathematics</td>
<td>438</td>
<td>192</td>
</tr>
</tbody>
</table>
What can (or should) I major in?

- Cornell Applicants to Medical Schools (2013-2015)
  - 1158 HCEC Registrants
    - 45% Biological Sciences Majors (A&S, CALS)
    - 15% Human Biology, Health, & Society Majors (Human Ecology)
    - 8% Biology & Society Majors (A&S, CALS, Human Ecology)
    - 6% Biological Engineering Majors (Engineering, CALS)
    - Other ~ 25%
      - Chemistry and Chemical Biology
      - Psychology
      - Economics
      - Human Development
      - Others – Spanish, History, Animal Science, Mathematics, etc.
What are medical, dental, nursing, optometry schools looking for?

- **Academic Performance**
  - GPA, MCAT

- **Experiences**
  - Extracurriculars, Clinical, Service

- **Personal Qualities**
  - Active learner, motivated, empathetic
Core Competencies

- **Interpersonal**
  - Service Orientation
  - Social Skills
  - Cultural Competence
  - Teamwork
  - Oral Communication

- **Intrapersonal**
  - Ethical Responsibility to Self and Others
  - Reliability and Dependability
  - Resilience and Adaptability
  - Capacity for Improvement

AAMC, Core Competencies for Entering Medical Students, https://www.aamc.org/initiatives/admissionsinitiative/competencies/
Core Competencies

• **Thinking and Reasoning**
  – Critical Thinking
  – Quantitative Reasoning
  – Scientific Inquiry
  – Written Communication

• **Science**
  – Living Systems
  – Human Behavior

An observable behavior that combines knowledge, skills, values, and attitudes related to a specific activity.

AAMC, Core Competencies for Entering Medical Students, https://www.aamc.org/initiatives/admissionsinitiative/competencies/
How competitive are these schools?

2013-2015 Acceptance Rates: Schools of Allopathic Medicine

- National Acceptance Rate (2015) 39%
- Cornell Undergraduates (for 464 applicants) 69%
- Cornell, for students with GPA $\geq 3.6$ 78%
- Cornell, for students with GPA $\geq 3.6$, MCAT $\geq 30$ 84%
Factors That Affect Acceptance Likelihood

+ • Service moving to leadership
  • Clinical experience
  • GPA upward trajectory
  • Applying at the end of college or after college (gap year)
  • Documented strong writing, speaking, and teamwork communication skills

- • High grades and little else
  • GPA downward trajectory
  • Weak interpersonal skills or little evidence of building them
  • Lack of knowledge about medical field
  • Applying before the whole candidacy is in place
“Traditional” Timeline

First year of College
- Summer experience.
- Shadow a practitioner, volunteer at a facility, conduct research and/or serve the community.

Second year of College
- Summer experience.
- Shadow a practitioner, volunteer at a facility, conduct research and/or serve the community.

Third year of College
- Complete the AMCAS application.
- Continue summer experiences.
- Continue to focus on coursework.
- Seek out on-campus resources
  - Pre-health advisors, clubs, etc.
  - Develop relationships with faculty and other mentors.
  - Setup summer opportunities

Fourth year of College
- Check course prerequisites.
- Focus on coursework.
- Seek out on-campus resources
  - Pre-health advisors, clubs, etc.
  - Develop relationships with faculty and other mentors.
  - Setup summer opportunities
- Continue to focus on coursework.
- Explore other courses.
- Seek out leadership opportunities.
- Identify possible sources of letters of recommendation.
- Prepare to take the MCAT.
- Register with the HCEC.
- Prepare personal statement.

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Gap Year Timeline

Third year of College

- Continue to focus on coursework.
- Explore other courses.
- Seek out leadership opportunities.
- Continue to develop relationships with faculty, community members, and staff.
- Meet with pre-health advisors.

Fourth year of College

- Continue to focus on coursework.
- Explore other courses.
- Seek out leadership opportunities.
- Identify possible sources of letters of recommendation.
- Prepare to take the MCAT.
- Register with the HCEC.
- Prepare personal statement.

Gap Year(s)

- Complete the AMCAS application.
- Complete supplementary applications.
- Prepare for the interview process.
  - Appropriate dress.
  - Travel expenses.
  - Mock interviews.
- Consult the CCS health careers advisor (available to meet with Alums).

Continue summer experiences.
Gap Year(s)

- Mean age of applicants at expected matriculation ~ 24.5 years
  - Range (1\textsuperscript{st} - 99\textsuperscript{th} percentile)
    - Women: 20 – 38 years
    - Men: 21 – 38 years

- Weill Cornell Medical College
  - 2014 Application Cycle
    - 67% of applicants took \textit{at least one} gap year
    - 70% of matriculated class took \textit{at least one} gap year

Where Can I Find the Guidance I May Need?

- Publications
  - Guide for First- and Second-Year Pre-Medical Students
  - Guide for the Advanced Pre-Medical Student

- Web Resources

- People
Web Resources

• Career Services Websites

• American Association of Medical Colleges (AAMC)

• Medical School Admission Requirements (MSAR®)
Tips for the Journey Ahead

• Connect with the resources at Cornell
• Focus on your academics
• Gain experience with sick people
• Develop alternative career plans
• Stay open
• Be knowledgeable about current events.
• Focus on scholarship – medically related where possible.
Questions?

“Action is the foundational key to all success.”

Pablo Picasso