Majors & Medicine
Kate Fukawa-Connelly
Director, Health Professions Advising
Majors Quiz: Match the major to its graduate

- Jonathan Safran Foer ‘99, author
- Gene Simmons, performer
- Dean Cain ‘88, actor
- Eva Longoria, actor
- David Robinson, NBA player
- Andrea Jung ’79, Avon CEO
- Carl Icahn ‘57, investor
- Michael Eisner, Disney CEO
- Sonia Sotomayor ‘76, Supreme Court Justice

- Philosophy
- Education
- History
- Kinesiology
- Mathematics
- English
- Philosophy
- Theater & English
- History
Major does not dictate career!

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- Philosophy
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- History
Harold Varmus, MD
English Lit BA, MA

Alfredo Quiñones-Hinojosa, MD
Psychology

Nancy Dickey, MD
Psychology & Sociology

Atul Gawande, MD, MPH
Political Science & Biology

Sen. Bill Frist ‘74, MD
WWS

Linda P Fried, MD, MPH
History
## Princeton Applicants to Medical School
### 2014 matriculation

<table>
<thead>
<tr>
<th>Class</th>
<th>Concentration</th>
<th>Medical School</th>
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<tbody>
<tr>
<td>12</td>
<td>Chem. &amp; Biological Engineering</td>
<td>Weill Cornell</td>
</tr>
<tr>
<td>14</td>
<td>Chem. &amp; Biological Engineering</td>
<td>U Penn</td>
</tr>
<tr>
<td>12</td>
<td>Chemistry</td>
<td>Harvard</td>
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<tr>
<td>14</td>
<td>Computer Science BSE</td>
<td>Stanford</td>
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<tr>
<td>12</td>
<td>Ecology &amp; Evolutionary Biology</td>
<td>UCSF</td>
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<tr>
<td>13</td>
<td>Molecular Biology</td>
<td>Columbia MD/PhD</td>
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<tr>
<td>14</td>
<td>Music</td>
<td>NYU</td>
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<tr>
<td>13</td>
<td>Psychology</td>
<td>Yale MD/PhD</td>
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<tr>
<td>13</td>
<td>Slavic Language &amp; Literature</td>
<td>Columbia</td>
</tr>
<tr>
<td>12</td>
<td>Sociology</td>
<td>Brown</td>
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<tr>
<td>11</td>
<td>Woodrow Wilson School</td>
<td>U Chicago Pritzker</td>
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</table>
Demonstrate aptitude in the biological and physical sciences during their undergraduate years, but not to the exclusion of the humanities and social sciences. (A study at Harvard Medical School has shown that students are successful in their medical studies regardless of undergraduate concentration, providing that they have had adequate science preparation. Students are urged to strive for a balanced and liberal education rather than specialized training. No preference is given to applicants who have majored in the sciences over those who have majored in the humanities.)

The Admissions Committee has no preference as to a major field for undergraduate study and leaves this decision to students with the advice that they advance beyond the elementary level in the field of their choice rather than pursue an undirected program. A liberal education is the supporting structure for graduate study, and must encompass understanding of the humanities, arts, and society as well as the scientific foundations of technology and civilization. The student of medicine enters a profession closely allied to the natural sciences and must be prepared to cope with chemistry and biology at a graduate level.
Core Competencies for Medical School Admission

**Competency:** an observable behavior that combines knowledge, skills, values, and attitudes related to a specific activity.

https://www.aamc.org/initiatives/admissionsinitiative/competencies/
Science Competencies

- **Living Systems**: Applies knowledge and skill in the natural sciences to solve problems related to living systems.
- **Human Behavior**: Applies knowledge of the self, others, and social systems to solve problems related to the psychological, socio-cultural, and biological factors that influence health and well-being.

Thinking and Reasoning Competencies

- **Critical Thinking**: Uses logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.
- **Quantitative Reasoning**: Applies quantitative reasoning and appropriate mathematics to describe or explain phenomena in the natural world.
- **Scientific Inquiry**: Applies knowledge of the scientific process to problems; is facile in the language of the sciences.
- **Written Communication**: Effectively conveys information to others in writing.
Interpersonal Competencies

- **Service Orientation**: Demonstrates a desire to help others and sensitivity to others’ needs and feelings; recognizes and acts on his/her responsibilities to society.
- **Social Skills**: Demonstrates an awareness of others’ needs, goals, feelings, and adjusts behaviors appropriately in response to cues; treats others with respect.
- **Cultural Competence**: Shows an appreciation and respect for multiple dimensions of diversity; interacts effectively with people from diverse backgrounds.
- **Teamwork**: Works collaboratively with others to achieve shared goals; puts team goals ahead of individual goals.
- **Oral Communication**: Effectively conveys information to others using spoken words; listens effectively.

Intrapersonal Competencies

- **Ethical Responsibility to Self and Others**: Behaves in an honest and ethical manner; cultivates personal and academic integrity.
- **Reliability and Dependability**: Fulfills obligations in a timely and satisfactory manner; takes responsibility for actions and performance.
- **Resilience and Adaptability**: Adapts effectively to stressful or changing environments; is persistent; recovers from setbacks.
- **Capacity for Improvement**: Sets goals for improvement and learning; solicits and responds appropriately to feedback.
Medicine & Your Major

- What competencies are you developing through your classes and independent work?

  - “Math majors are known for their camaraderie. As a student in the department, you will face some very daunting problem sets ... Great friendships come from slaving with your peers at the blackboards in the Fine hall common room.”

    Resilience • Teamwork • Quantitative Reasoning • Critical Thinking

  - “Studying sociology gives us a unique perspective on not only our surroundings but on ways to address issues or problems in policies that affect society ... Sociology majors learn how to challenge assumptions. They look at issues from all angles ... They merge quantitative data analysis (looking at patterns in groups/societies/communities) with qualitative data (interviewing/observing actual people) to paint a rich and comprehensive picture of the issue at hand.”

    Cultural Competency • Service Orientation • Quantitative Reasoning • Critical Thinking

- Keep in mind that competencies are demonstrated through much more than your academics!
- Keep in mind that these competencies are not unique to health careers: many careers in many industries are looking for the same qualities.
Consider unique connections between your concentration and medicine. Here are some sample thesis topics that wove together majors and health.

- Construction of Fusion Lasso Peptides with Pharmaceutically-Relevant Sequences (CBE)
- Nanoparticles for Drug Delivery: Characterization of Particle Surface Density and Macrophage Uptake Mechanisms (CBE)
- Quorum Sensing Agonists for Cholera Therapy: Synthesis, Evaluation and Studies in Nanoparticle Delivery (CHM)
- The Selective Inhibitory Action of the Antibiotic Tropodithietic Acid (CHM)
- 1H NMR-Based Metabolomic Analysis of Intraerythrocytic Stages of P. falciparum and Antimalarial Treatments (CHM)
- At Risk: Modeling HIV/Hepatitis C Coinfection and Interventions in Urban Populations. A Case Study of Newark NJ (EEB)
- Challenging the Miracle Drug: Alterations in Prophylactic and Therapeutic Agents for Patients with Self-Reported Penicillin Allergies (EEB)
- Climactic Drivers of Diarrheal Disease in Thailand: The Role of Helminth Co-Infection (EEB)
- Exploring the Interplay Between Disease Avoidance Behavior and the Dynamics of Measles (EEB)
- The Impact of School Closure and Vaccination on Hand-Foot-and-Mouth Disease Transmission Dynamics in China (EEB)
- The Etiology and Pathogenesis of Multiple Sclerosis (MOL)
- The Regulation of Elf5 Methylation in Breast Cancer Progression (MOL)
- The Role of Purinergic Signaling in Human Cytomegalovirus Infection (MOL)
- Unforgettable in Every Way: Weaving Together Voices of Alzheimer’s Disease (MOL)
Medicine & Your Major

Medicine & Your Major

- Death and Dying in Ancient Greek Medicine (CLA)
- All in the Family: A Filmic Analysis of Family Caregiving of the Mentally Ill in Contemporary China (EAS)
- Nurturing Life Amidst the Smog: The Air Pollution Experience in Contemporary China (EAS)
- Doctors’ Writings: The Intersections of Literature and Medicine in Peri Klass, Richard Selzer and Ethan Canin (ENG)
- Staging Sickness: The Theatricality of Terminal Illness, Gendered Disease, and Lifelong Disabilities (ENG)
- Writing an Epidemic; Fighting an Epidemic: The Memoirs of People with AIDS in the 1980s and 1990s (ENG)
- Of Mice and Men: Industry Challenges to Animal Studies in Twentieth Century Carcinogen Regulation (HIS)
- “Revolution of Falling Expectations”: Bertram Brown and the Political Psychiatry of Community Mental Health (1963-1978) (HIS)
- Rural Health Care in Central Iran: A Study from the Patients’ and the Government’s Perspectives (NES)
- Justice and Equality in Healthcare Resource Allocation: the Bi-Directional QALY Method (PHI)
- When Bodies Break: An Exploration of Christian Responses to Leprosy and AIDS (REL)
- Midwives and Medicalization: Reading Childbirth in Russian Literature (SLA)
- The Spanish Health Care System and Treatment of Immigrants (SPO)
Navigating Uncertainty: Negotiations on the Care of Extremely Preterm Infants (ANT)
Social, Cultural, and Ethical Dimensions of Medical Tourism in the Developing World: Insights from Anthropology (ANT)
Transience and the Lives Therein: An Ethnography of Global Health and Care in Sierra Leone (ANT)
Hospital vs Hospice: An Empirical Analysis of the Determinants of Care in End-of-Life Patients (ECO)
Racial Disparities in Mental Health Among Undergraduates (PSY)
Using Pediatric Growth Curves in Secondary Prevention of Eating Disorders (PSY)
Hypertension: A Consequence of Racial Discrimination? (SOC)
Beyond Pro-Life and Pro-Choice: Race, Class, and Women’s Reproductive Rights Narratives (SOC)
Examining Progress Towards Reducing Refusal of the Oral Polio Vaccine in Nigeria from 2008-2013 (WWS)
Home is Where Your Health Is: Exploring Cross-Sector Partnerships that Care for the Chronically Homeless (WWS)
Improving Health in Minority Communities: Evaluating the Medicaid Expansion as an Intervention in Urban Environments (WWS)
Societal Implications of Vaccine Recommendations: Case Study of Pneumococcal Conjugate Vaccine (WWS)
Medicine & Your Major
anticipating interview questions

- Why did you choose your major?
- How is studying ____ going to make you a better doctor (dentist, nurse, etc.)?
- I see you majored in (non-science major) – why not a science?
- I see you majored in (science major) – what were your favorite non-science courses?
- I see you majored in engineering – the job market is great – why spend all the time and money to become a doctor?
- Tell me about your senior thesis.
- What would you do if you didn’t do medicine?
Medicine & Your Major

- Do what you love.
- Be able to talk about how your academic choices inform your future as a health professional.
- Seek other ways to develop competencies addressed less directly by your concentration.
  - Work with patients (hospital, hospice, etc.)
  - Service opportunities
  - Study abroad
  - Leadership in student organizations
  - Jobs and internships
  - Careful selection of electives