Health Professions at SFSU
Shannon Anderson, Ph.D.

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Health Professions Advisor
Co-Director,
Formal Post-Bacc Program

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Web: http://online.sfsu.edu/~brothman
Professions I Cover

- Medicine
  - *Allopathic & Osteopathic*
- Dentistry
- Pharmacy
- Physical Therapy
- Optometry
- Podiatry
Professions I Cover

- Chiropractic
- Physician Assistant
- Nurse-Practitioner
- Dental Hygiene
- Veterinary Medicine
- Allied Health Careers
Sneak-Preview Day

Two Important Points

- It will likely take 5 years to graduate
- Best not to rush or pressure the student
Popular Majors

- **Biology Concentrations:**
  - Physiology
  - Cell & Molecular Biology
  - General

- **Chemistry:**
  - Biochemistry
Popular Majors

- Minor in a Second Science
  - E.g.: Physiology Major and Chemistry Minor

- Double-Major
  - E.g.: Cell & Molecular Biology and English
Campus Resources

- Health Professions Advising Committee (HPAC)
- Special Classes (HPAC)
Campus Resources

- Pre-Health Professions Student Alliance (PHPSA)
- Pre-Dental Society
- Pre-Pharmacy Club
- Pre-Vet Club
- Pre-Optometry Club
Campus Resources

- Introduction to Health Professions (Sci 239)
  - Focus on Freshmen and Sophomores
  - Talks by Health Professionals
  - Student Projects
Campus Resources

- **Summer Science Institute (HPAC)**
  - Focus on Disadvantaged Freshmen and Sophomores
  - Intensive Prep in Math, Physics, Chemistry and Biology in Summer
  - Tutoring in Fall and Spring Semesters
  - Talks by Health Professionals
  - Student Projects
  - M-F, Jun 18 to Aug 10
Campus Resources

- Health Professions Speaker Series
  - Talks by Health Professionals
  - Meet other pre-health students
  - Thurs, 5-7 pm, HH-501
Campus Resources

Health Professions Colloquium (Sci 695)

- Work on personal statements and interviewing
- Discussion Board
- Wed, 10-12pm
Campus Resources

HPAC Services:

- Health Professions Letter Forwarding Service
  - Collecting and Forwarding Letters of Recommendation
- Peer Advisors
  - Advising Hours: M-F in HH-504
Core Courses
Total: 39 Units

Biol 230  Introductory Biology I & Lab  5
Sci 230   Science Concepts (Intro Bio I)  1
Biol 240  Introductory Biology II & Lab  5
Sci 240   Science Concepts (Intro Bio II)  1
Core Courses

Chem 115      General Chemistry I & Lab      5
Sci 115      Science Concepts (GChem I)      1
Chem 233      Organic Chemistry I          3
Sci 333      Science Concepts (OChem I)      1
Chem 234      Organic Chemistry I Lab       1
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem 335</td>
<td>Organic Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>Sci 335</td>
<td>Science Concepts (OChem I)</td>
<td>1</td>
</tr>
<tr>
<td>Chem 336</td>
<td>Organic Chemistry II Lab</td>
<td>2</td>
</tr>
<tr>
<td>Chem 215</td>
<td>General Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>Sci 215</td>
<td>Science Concepts (GChem II)</td>
<td>1</td>
</tr>
<tr>
<td>Chem 216</td>
<td>General Chemistry II Lab</td>
<td>2</td>
</tr>
</tbody>
</table>
Core Courses

Phys 111  General Physics I  3
Sci 111  Science Concepts (Phys I)  1
Phys 112  General Physics I Lab  1
Phys 121  General Physics II  3
Sci 121  Science Concepts (Phys II)  1
Phys 122  General Physics II Lab  1
### Supplementary Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 328/9</td>
<td>Human Anatomy*</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 350</td>
<td>Cell Biology†</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 355</td>
<td>Genetics†</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 357</td>
<td>Molecular Genetics‡</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 361</td>
<td>Human Genetics‡</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 382</td>
<td>Developmental Biology‡</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 401/402</td>
<td>Gen Microbiology &amp; Lab†</td>
<td>3/2</td>
</tr>
<tr>
<td>BIOL 430</td>
<td>Medical Microbiology‡</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 343/435/436</td>
<td>Immunology/Lab‡</td>
<td>3/3/2</td>
</tr>
<tr>
<td>BIOL 439</td>
<td>Medical Mycology‡</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 464</td>
<td>Medical Entomology‡</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 612/613</td>
<td>Human Physiology &amp; Lab*</td>
<td>3/2</td>
</tr>
<tr>
<td>BIOL 614</td>
<td>Vertebrate Histology‡</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 615</td>
<td>Molecular Pathophysicsology‡</td>
<td>3</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
</tr>
<tr>
<td>--------------------------</td>
<td>---------------------------------------------------</td>
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</tr>
<tr>
<td>BIOL 616</td>
<td>Cardiovascular Physiology‡</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 620</td>
<td>Endocrinology‡</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 621</td>
<td>Reproductive Physiology‡</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 622</td>
<td>Hormones &amp; Behavior‡</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 625</td>
<td>Hematology‡</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 640/642</td>
<td>Cellular/Systems Neuroscience‡</td>
<td>3/3</td>
</tr>
<tr>
<td>BIOL/CHEM 699</td>
<td>Special Study in Biol/Chem‡</td>
<td>1-3</td>
</tr>
<tr>
<td>CHEM 340/341 or 349</td>
<td>Biochemistry I/II‡</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 347/348</td>
<td>Clinical Biochemistry/Lab‡</td>
<td>2/2</td>
</tr>
<tr>
<td>CHEM 338</td>
<td>Research Organic Chem Lab‡</td>
<td>3</td>
</tr>
<tr>
<td>MATH 124</td>
<td>Statistics#</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 458</td>
<td>Biometry#</td>
<td>4</td>
</tr>
<tr>
<td>MATH 220-228</td>
<td>Calc &amp; Analyt Geom #</td>
<td>3 each</td>
</tr>
</tbody>
</table>
Admission Scenario
(5,000 Applicants)

Primary Application:
- GPA and MCAT Scores
- Achievements and Honors
- Personal Statement

- 4,000 Eliminated
Admission Scenario
(1,000 Remaining Applicants)

- 2° Applic. & Letters of Rec.
  - 700 Eliminated

- Interview 300
  - 150 Eliminated

- 150 Admitted
  - 50 Decline, 100 Enter
Successful Applicants

- Understand the principles and vocabularies of biology, chemistry, and physics.
- Have adequate experience in laboratory courses.
- Are mathematically competent.
  - *Calculus, statistics, computer studies.*
Successful Applicants

- Have "real world" clinical and/or research experience.
- Have participated in honors or independent study courses such as Bio 699.
- Communicate effectively both verbally and in writing.
Successful Applicants

- Relate effectively with other people.
- Have a broad academic background.
  - Exposure to the natural sciences, behavioral sciences and humanities.
Successful Applicants

- Are culturally competent.
  - Exposure to other cultures
  - Ability to deal with other cultures

- Have a clear understanding of the current health care system in the US, including its trends, efficiencies and limitations.
Applied: $3.3 \pm 0.5$, $N=45,000$

Accepted: $3.5 \pm 0.4$, $N=16,000$

- 3.0: 24%
- 3.7: 59%
Allied Health Careers

- Alternative Health Careers
- Completion of programs in 1-2 years.
- You receive a Certificate or an Associate in Science degree.
- Lower stress
- More flexible work hours
## CCSF Allied Health Pathways

*Source: Bureau of Labor Statistics, Occupational Employment Statistics Survey; California Employment Development Department, Labor Market Information*

<table>
<thead>
<tr>
<th>Program</th>
<th>Program Length</th>
<th>Nature of work</th>
<th>Science Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dental Assisting</td>
<td>2 years</td>
<td>Assist dentist, set up patient and equipment, and keep records.</td>
<td>Anatomy Physiology Basic Physics Microbiology</td>
</tr>
<tr>
<td>Diagnostic Medical Imaging</td>
<td>2.5 years</td>
<td>Produce diagnostic images using x-ray and image process.</td>
<td>Anatomy Physiology Physics Chemistry Algebra +</td>
</tr>
<tr>
<td>Health Information Technology</td>
<td>2-1.5 years</td>
<td>Process, analyze, disseminate, organize and manage health care records in a medical office.</td>
<td>Basic Anatomy Basic Physiology</td>
</tr>
</tbody>
</table>
### CCSF Allied Health, Cont.

<table>
<thead>
<tr>
<th>Program</th>
<th>Program Length</th>
<th>Nature of work</th>
<th>Math &amp; Science Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Assisting</td>
<td>2 years</td>
<td>Administrative &amp; clinical duties under direction of physician. Scheduling apt., taking vital signs, recording medical histories.</td>
<td>Basic Anatomy Basic Physiology</td>
</tr>
<tr>
<td>Pharmacy Tech.</td>
<td>1 year</td>
<td>Prepare medications under direction of a pharmacist. May measure, mix, count out, label, and record amounts and dosages of medications.</td>
<td>Pharmacy math Basic Anatomy Basic Physiology</td>
</tr>
<tr>
<td>Program</td>
<td>Program Length</td>
<td>Nature of work</td>
<td>Science Requirements</td>
</tr>
<tr>
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</tr>
<tr>
<td>Radiation Oncology Technician</td>
<td>2.5 years</td>
<td>Treat cancer patients with radiation therapy.</td>
<td>Anatomy Physics</td>
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<tr>
<td>(Radiation Therapy Technologist)</td>
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