Announcements:

See Senior Seminar “Updates” page frequently for current job postings, articles, and discussions about career development trends. “like” the CDO Facebook page. (https://facebook.com/CareerDevelopmentFrancisMarion)

See webpage syllabus:
1. Writing your post-graduate essay.
Doctors

- **MD** (Doctor of Medicine - many specialties)
- **DMD/DDS** (Doctor Dental Medicine or Doctor Dental Surgery – many specialties)
- **DVM** (Doctor of Veterinary Medicine - many specialties)
  - All require 4 yrs of medical school, internship, and/or post-doctoral training and specialization, and possibly board certification.
  - Check out Wikipedia for specialties within each field.

- Average salary for doctors? Depends on specialty, board certification, and experience. ~$90,000 to > $350,000

  "With great (financial) POWER comes great responsibility!"

Physicians Pay depends on specialty, board certification, and experience.

- Projected increase in jobs by 2022 = 18%

- Doctoral degree and internship, residency, board certification

- Average income for physicians in 2012 = $187,200

- Subspecialties and board-certification can earn more than $200,000 per year
Physicians

Pay depends on specialty, board certification, and experience.


Veterinarian (DVM)

Projected increase in 2016: 28%

Median pay in 2006: $81,490

Education/training: Veterinarians must complete a four-year post-grad program to receive a Doctor of Veterinary Medicine. That’s no easy task — admission to veterinary school is competitive. Before practicing, veterinarians must also be licensed by the state.

Job outlook: Pet owners are increasingly seeking nontraditional services, such as preventative dental care. Advances in the field are also allowing veterinarians to offer procedures common for humans, including hip replacement, blood transfusions, and cancer treatment, creating a need for more professionals.
Veterinarian (DVM)

Summary

<table>
<thead>
<tr>
<th>Quick Facts: Veterinarians</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015 Median Pay</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Typical Entry-Level Education</td>
</tr>
<tr>
<td>Work Experience in a Related Occupation</td>
</tr>
<tr>
<td>On-the-job Training</td>
</tr>
<tr>
<td>Number of Jobs, 2014</td>
</tr>
<tr>
<td>Job Outlook, 2014-24</td>
</tr>
<tr>
<td>Employment Change, 2014-24</td>
</tr>
</tbody>
</table>

What Veterinarians Do
Veterinarians care for the health of animals and work to improve public health. They diagnose, treat, and research medical conditions and diseases of pets, livestock, and other animals.

Work Environment
Most veterinarians work in private clinics and hospitals. Others travel to farms, work in laboratories or classrooms, or work for the government.

How to Become a Veterinarian
Veterinarians must have a Doctor of Veterinary Medicine degree from an accredited veterinary college and a state license.

Pay
The median annual wage for veterinarians was $88,490 in May 2015.

Source: http://www.bls.gov/ooh/healthcare/veterinarians.htm

http://www.aavmc.org/Funding-Education/Veterinarian-Incomes.aspx

Non-private practice jobs:
> USDA
> FDA – food inspector
> CDC – track disease
> Research
> Teaching
Veterinary Technician/Assistant

Projected increase in 2016: 41 percent

Median pay in 2006: $27,750

Education/training: There are two educational tracks available to people entering the veterinary field: a two-year associate's degree from an accredited community college veterinary technician program, or a four-year bachelor's degree from one of about 16 colleges in the country that offer programs.

Job outlook: Pet owners are increasingly thinking of Tabby or Spot as members of the family, creating a boom in this industry. Pet owners are becoming more affluent, and the number of pets is growing, boosting demand for specialized veterinary services.

Veterinary Alternatives:
Animal Trainer, Behaviorist, or Groomer
Animal Trainer, Animal Behaviorist (exotics)

- may require BS, MS, Technical School, & on-the-job apprenticeship.
(https://www.animalbehaviorcollege.com/)

Veterinary Alternatives:
Zoos/Aquariums
Veterinary Alternatives: Animal Science

Veterinary Alternatives: National, State, and Government Agencies
Nurses

- Certified Nursing Assistant, Licensed Practical nurse (LPN), Registered nurse (RN), Bachelor of Science in Nursing, Master of Science in Nursing, Doctorate in Nursing
- Many specialities!!
- Increased demand for nurses:
  - +39% - Offices of physicians
  - +39% - Home health care services
  - +34% - Outpatient care centers
  - +22% - Hospitals, public and private
  - +20% - Nursing care facilities

Nursing pay scales vary by experience:
(Source: http://www.nursingcalling.com/top-10-highest-paying-nursing-jobs/)

#1 Certified Registered Nurse Anesthetist - $105K & $130K annually

#2 Orthopedics - $120 K

#3 Clinical Nurse Specialist (requires Masters) - $104 K

#4 Nurse Researcher - $75 and $95 K

#5 Mental Health Nurse Practitioner - $70 & $90 K

#6 Certified Nurse Midwife - $75K

#7 Nurse Practitioner - $78 K

#8 Geriatrics - $75 K

#9 Neonatal Nurse - $75 K

#10 Pediatric Nurse - $67 K
**Nursing**

You started as FMU Biology BS major & want to switch to nursing? ... You can do that! You might only need few extra courses. .... Speak to nursing student coordinator: Charlotte Kollman

Source: [http://www.fmarion.edu/academics/bsnprogram](http://www.fmarion.edu/academics/bsnprogram)

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### General Education and Nursing Prerequisites for students without previous bachelors:

All numbers listed below are Francis Marion University course numbers. Course descriptions can be found in the FMU Catalog. Please reference the Transfer Guide to see if courses taken at South Carolina technical colleges transfer as needed courses.

- English 112
- English 200**
- Speech Communication 101
- Political Science 101 or 103
- Psychology 334 - Life Span Development
- Social Science Elective
- Literature
- History
- Art 101, Music 101, or Theater 101
- Humanity Elective
- Mathematics 111
- Mathematics 134 - Probability and Statistics
- Biology 105
- Chemistry 101
- Chemistry 102
- Biology 205 - Human Anatomy
- Biology 311 - Microbiology
- Biology 230 - Human Physiology

**Class must be taken at FMU. This class is specific to Francis Marion and there are no English classes that will transfer into English 200.}

{Science GPA of 2.6 or higher}

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**Medical/Nursing Alternatives:**

**Allied Health**

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[Image of medical professionals]
Allied Health Careers

• Pharmacist/technician
• Physical Therapist
• Chiropractic/massage/occupational therapy
• Medical technician/assistant
• Perfusionist/phlebotomist
• Dental assistant/hygienist
• EMT/Paramedic
• Medical transcription
• Dietetics/nutritionist
• Social work

  – Not the same requirements as a medical degree or a graduate degree.

Physician Assistant

- PA’s earn an MS degree from accredited PA program.
- Become nationally certified - receive a state license to practice. Then practice medicine on a team under the supervision of physicians and surgeons.
- They are formally educated to examine patients, diagnose injuries and illnesses, provide treatment, and prescribe medication. A physician directly supervises PA’s.

Based both on salary and job prospects:
  Money magazine: “fifth best job in America”
  CNN Money: “number two best job in America”
  Forbes: “number one Master’s Degree for jobs”

Average income for physician assistants working full-time = $102,165

Physician assistants in emergency medicine, dermatology, and surgical subspecialties can earn $100,000 to $200,000 per year

Source: American Association of Physician Assistants
Physician Assistant

Projected increase in 2016: 27 percent

Median pay in 2006: $74,980

Education/training: Completion of a two-year physician assistant program is required before candidates are eligible to take the national license exam.

Job outlook: As healthcare facilities, particularly in rural and inner city areas, increasingly use physician assistants to address physician shortages and save money, job demand will grow.

Physical Therapist

Projected increase in 2016: 27 percent

Median pay in 2006: $68,050

Education/training: In addition to a master’s degree from an accredited physical therapy program, this profession requires a state license.

Job outlook: The growing elderly and disabled population will push demand for physical therapy, an industry that’s constantly expanding its scope.
Physical Therapist Assistant

**Projected increase in 2016:** 32 percent

**Median pay in 2006:** $41,410

**Education/training:** PTAs are required to complete an accredited, 2-year program that combines semesters of academic study and hands-on clinical experience. After completing the program, PTAs must be accredited by the American Physical Therapy Association. Depending on the state of employment additional testing and licensing may be required.

**Job outlook:** Job opportunities should be particularly good in acute hospital, skilled nursing, and orthopedic settings, where the elderly are most often treated. Job prospects should be especially favorable in rural areas, as many physical therapists tend to cluster in highly populated urban and suburban areas.

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**Pharmacist**

- Projected increase in jobs by 2022 = 14% (average)
- Doctoral degree and internship, residency, board certification
- Average income for physicians in 2012 = $116,670
Pharmacist

<table>
<thead>
<tr>
<th>2015 Median Pay</th>
<th>$121,590 per year</th>
<th>$58.41 per hour</th>
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</thead>
<tbody>
<tr>
<td>Typical Entry-Level Education</td>
<td>Doctoral or professional degree</td>
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<tr>
<td>Work Experience in a Related Occupation</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>On-the-job Training</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Number of Jobs, 2014</td>
<td>297,100</td>
<td></td>
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<tr>
<td>Job Outlook, 2014-24</td>
<td>3% (Slower than average)</td>
<td></td>
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<tr>
<td>Employment Change, 2014-24</td>
<td>9,100</td>
<td></td>
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</tbody>
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What Pharmacists Do
Pharmacists dispense prescription medications to patients and offer expertise in the safe use of prescriptions. They also may conduct health and wellness screenings, provide immunizations, oversee the medications given to patients, and provide advice on healthy lifestyles.

Work Environment
Pharmacists work in pharmacies, including those in grocery and drug stores. They also work in hospitals and other healthcare facilities.

How to Become a Pharmacist
Pharmacists must have a Doctor of Pharmacy (Pharm.D.), a 4-year professional degree. They must also be licensed, which requires passing two exams.

Pay
The median annual wage for pharmacists was $121,590 in May 2015.

Job Outlook
Employment of pharmacists is projected to grow 3 percent from 2014 to 2024, slower than the average for all occupations. Increased demand for prescript medications will lead to more demand for pharmaceutical services. Employment of pharmacists in traditional pharmacies is projected to decline slightly.

Source: http://www.bls.gov/ooh/healthcare/pharmacists.htm

Pharmacy Technician

Projected increase in 2016: 32 percent

Median pay in 2006: $26,510

Education/training: Most of the training a pharmacy technician receives is on the job. However, education, experience, certification, and customer service skills will aid someone looking to break into this field.

Job outlook: The demand for pharmacy technicians will increase along with the elderly population. Pharmacies looking to cut costs will shift more responsibilities from pharmacists to technicians.
Medical Technology

Medical Technology

Medical Technology, also known as Clinical Laboratory Science, is a paramedical field for which the student prepares in chemistry, microbiology, hematology, and related disciplines. Well-trained and certified Medical Technologists or Clinical Laboratory Technicians can enter careers in clinical laboratory work, academic research, public health, teaching, and the pharmaceutical industry. The medical technologist not only contributes to the study, diagnosis, and treatment of diseases but is of increasing importance in the evaluation of established technical procedures and in the use of new, increasingly complex instruments. At this time, job availability to qualified candidates is relatively good.

Requires a Bachelor’s degree in Medical Technology, and some states require licensing to practice.

Medical Technology

- **FMU Medical Technology Program**
  [http://departments.fmarion.edu/biology/Biology_Department/Degree_Medical_Technology.html](http://departments.fmarion.edu/biology/Biology_Department/Degree_Medical_Technology.html)

- 3+1 versus 4+1 options

- MT coordinator – Dr. Pryor

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Dental Hygienist

**Projected increase in 2016:** 30 percent

**Median pay in 2006:** $62,430

**Education/training:** Dental hygienists must get a state license to practice. A degree from dental hygiene school is also usually required.

**Job outlook:** Dental hygienists will continue to be in demand as the population ages and care improves. Older patients are keeping their teeth longer instead of wearing dentures. Hygienists will take over more tasks that were previously performed by dentists.
Dental Assistant

Projected increase in 2016: 29 percent

Median pay in 2006: $30,850

Education/training: In the past, a high school diploma and on-the-job training were all that was required, but many dental assistants are now completing one- or two-year certificate or diploma programs.

Job outlook: As dental health among older generations improves, routine preventative care is needed more than ever before. Also, younger dentists entering the field are more likely to work with assistants.

Medical Assistant

Projected increase in 2016: 35 percent

Median pay in 2006: $26,290

Education/training: A one-year certificate or two-year associate’s degree program is often required, but medical assistants also receive on-the-job training specific from their employer.

Job outlook: The medical industry is expected to expand because of technological advances and the growing elderly population. As the healthcare industry expands, more practices and clinics requiring large support staffs are opening.
Mental Health/Substance Abuse Counselor

**Projected increase in 2016:** 30 percent

**Median pay in 2006:** $37,980

**Education/training:** A master’s degree is viewed as standard for most counselors.

**Job outlook:** The justice system is increasingly assigning drug offenders to treatment programs instead of jail, fueling demand for counselors.

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Home Health Aide

**Projected increase in 2016:** 49 percent

**Median pay in 2006:** $20,100

**Education/training:** Home health aides are not required to have a high school diploma; they receive most of their training on the job from experienced aides or nurses. Classroom training, lectures, and workshops may be required depending on employer.

**Job outlook:** While personal and home care aides provide mostly housekeeping and routine services, home health aides provide more extensive healthcare than family and friends can manage. A growing demand for home services among the elderly and the pressure to contain costs by moving patients home sooner will make home health aides one of the fastest growing aide professions. A possible downside, however, is that most employers only hire on-call hourly workers and do not offer benefits.
National, State, and Government Agencies

• Department of Health & Human Services

National, State, and Government Agencies

• National Institutes of Health
• Centers for Disease Control
With a Ph.D. / MS

Field and/or Laboratory Research

Zoology, Botany, Forestry, Ecology, Wildlife Management, Agriculture, etc ...

Ph.D.s / MS

Marine Biology
- Some colleges offer BS in marine biology
- scientist/researcher
- conservation
- consultant
- parks / zoos / aquariums
- wildlife management
- fisheries !!!
- etc

For info:
http://swfsc.noaa.gov/textblock.aspx?id=54
Animal Science
- Some colleges offer BS in animal science
  - farmer
  - industry / commercial
  - inspector
  - researcher
  - consultant

Ph.D.s / MS / or BSc in Animal Science

Zoos/Aquariums
- Animal curator, animal training, husbandry, nutrition, etc...

• Ph.D. or MS
• or BSc in Biology, Zoology, Wildlife Biology, often require internships
• Often can work with Associate’s degree in Veterinary Technology.

See http://www.aza.org/joblistings/
Forensics & Pathology

Many different “entry levels”
- Associate’s degree (2 yr)
- BS degree (4 yr)
- MS degree (2-3 yrs)
- MD degree (MUCH LONGER)

Forensics & Pathology

Associates degree in forensic technology (2 yr technical school)
- Forensic technology, Crime scene investigation, Evidence technology, & Homicide investigation

Bachelor’s degrees:
- BS in forensics or BS in chemistry w/forensics specialty
- private, state or federal forensic laboratories, insurance companies or in the judicial system

MS in Forensics:
- 2-3 yrs graduate school
- Requires internship
- jobs in crime scene analysis, forensic science, criminal justice laboratories, medical examiners’ offices, hospitals, universities, police departments and government agencies

Forensics Pathologist:
- 4 yrs medical school (MD)
- Residency in forensics (4-5 yrs)
- 1 yr fellowship
- Certification (pass The American Board of Pathology)
Forensic Science Technician

**Summary**

<table>
<thead>
<tr>
<th>Quick Facts: Forensic Science Technicians</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015 Median Pay</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Typical Entry-Level Education</td>
</tr>
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</tr>
<tr>
<td>On-the-job Training</td>
</tr>
<tr>
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</tr>
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</tr>
<tr>
<td>Employment Change, 2014–24</td>
</tr>
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</table>

**What Forensic Science Technicians Do**

Forensic science technicians aid criminal investigations by collecting and analyzing evidence. Many technicians specialize in either crime scene investigation or laboratory analysis. Most forensic science technicians spend some time writing reports.

**Work Environment**

Most laboratory forensic science technicians work full time during standard hours. Crime scene investigators may work extended or unusual hours and travel to crime scenes within their jurisdiction.

**How to Become a Forensic Science Technician**

Forensic science technicians typically need at least a bachelor’s degree in a natural science, such as chemistry or biology, or in forensic science. On-the-job training generally is required for both those who investigate crime scenes and those who work in labs.

**Pay**

The median annual wage for forensic science technicians was $56,120 in May 2015.


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Botany, Botanical Research

![Botanical garden image](image-url)
**Museum Curator** – most require MS degree in art, history, or archeology. BS degree sometimes for smaller museums.

**Graduate School**

- **M.S. (Master of Science - 2 or more yrs)**
  - Research (thesis degree)
  - Teaching (non-thesis degree) – for teaching at high school
  - **Wide range** of job opportunities

AND / OR

- **Ph.D. (3-5 yrs)**
  - Post-Doctoral Employment
    - Research
    - Teaching (professor) – post secondary schools (colleges, universities)
    - Administration
Professors - requires PhD, post-doc experience good, teaching experience great


High School Teacher - BS degree & public schools need certificate/license

Do Your Own Searching!