Goal is to empower you with information for making decisions

- Identify information sources
- Help you:
  - understand how the world you’re heading toward works
  - avoid narrow or mistaken views
  - make the best investment of your time and money

Remove any Blinders

What does it take to get into veterinary school?

Find out here:
“Prospective Vet Students”
http://www.vetmed.wsu.edu/

“Prerequisites” and good grades in hard courses

How do you get admitted?

Show evidence of leadership
- As a professional, veterinarians are expected to be community leaders

Show evidence of “headspace” - attitude, ability, ethic

Do well in hard capstone courses
- Transcripts evaluated for course difficulty and course load!
- Rigor of institution and of major is judged
- Good grades in rigorous upper division, capstone courses
  ★ Strong finish is most important (good grades in tough upper division)

Be well rounded and communicate well
- Take leadership roles in student organizations
- Be prepared for behavioral interview questions
  ★ Narrow, poorly communicating 4.0 students are denied

Warning: This is my opinion; official WSU CVM information is @ http://www.vetmed.wsu.edu/prospectiveStudents/

Meet the required but limited prerequisites

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical &amp; Biological Science Requirements</td>
<td></td>
</tr>
<tr>
<td>Biology with lab</td>
<td>8</td>
</tr>
<tr>
<td>Inorganic chemistry with lab</td>
<td>8</td>
</tr>
<tr>
<td>Organic chemistry with lab</td>
<td></td>
</tr>
<tr>
<td>Genetics</td>
<td></td>
</tr>
<tr>
<td>Biochemistry</td>
<td></td>
</tr>
<tr>
<td>Physics with lab</td>
<td></td>
</tr>
<tr>
<td>Statistics (methods)</td>
<td>3</td>
</tr>
<tr>
<td>Algebra, Pre-calculus or higher</td>
<td>3</td>
</tr>
<tr>
<td>General Education Requirements</td>
<td></td>
</tr>
<tr>
<td>English composition/communication</td>
<td>6</td>
</tr>
<tr>
<td>Arts &amp; humanities/social science/history</td>
<td>21</td>
</tr>
<tr>
<td>Total SEMESTER credit hours</td>
<td>64</td>
</tr>
</tbody>
</table>

Specific requirements are limited to enable students from other undergraduate programs to meet them
How good is good enough?
Statistics from class admitted in 2014

<table>
<thead>
<tr>
<th></th>
<th>Cumulative GPA</th>
<th>Science GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>3.61</td>
<td>3.55</td>
</tr>
<tr>
<td>Range</td>
<td>2.53 – 4.00</td>
<td>2.36 – 4.00</td>
</tr>
<tr>
<td>Above 3.2</td>
<td>92%</td>
<td>85%</td>
</tr>
</tbody>
</table>

Other 2014 class statistics

<table>
<thead>
<tr>
<th></th>
<th>Average</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRE %</td>
<td>60%</td>
<td></td>
</tr>
<tr>
<td>Verbal</td>
<td>70%</td>
<td>28 – 99%</td>
</tr>
<tr>
<td>Quantitative</td>
<td>59%</td>
<td>15 – 98%</td>
</tr>
<tr>
<td>Analytical Writing</td>
<td>57%</td>
<td>6 – 97%</td>
</tr>
<tr>
<td>Yrs. of College</td>
<td>5.3</td>
<td>(~5% grad degrees)</td>
</tr>
<tr>
<td>Age</td>
<td>24</td>
<td>20 - 45</td>
</tr>
</tbody>
</table>

What classes are in the DVM curriculum?

- Vet Microscopic Anatomy
- Vet Anatomy I & 2
- Vet Cell Physiology
- Physiology
- Vet Med:
  - where your scarce time in pre-vet coursework that veterinary schools don't do well (e.g., business, animal nutrition, reproductive physiology) rather than what they do well (e.g., anatomy, microbiology)
- BI
- GE & 2
- Sy
- Clinical Pathology
- Parasitology
- Vet Toxicology
- Public Health
- Epidemiology

151 Credit Hours (~19 / semester)

What does a DVM degree cost?

4 years, usually beyond undergraduate degree

Annual in-state expenses:
- $24,233 annual tuition
- $ 1,232 books
- $ 11,160 room & board
- $ 3,542 travel & misc

$ 40,167 per year
~ $161,000 Total
~ $ 97,000 minimum

What are DVM’s paid?

All DVM’s
$41.66 / hr (Median)
2,080 hrs / yr

Typical starting wage

Use BLS Occupational Employment Statistics to compare a DVM to your Plan B career


http://www.bls.gov/oes/current/oes_stru.htm
http://www.onetonline.org/find/

(o*net)
What are new DVM’s paid?
Average 2013 starting salaries, high to low, rounded

<table>
<thead>
<tr>
<th>Employment Type</th>
<th>% of New Graduates</th>
<th>Ave Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Animal excl</td>
<td>2%</td>
<td>$77,000</td>
</tr>
<tr>
<td>Companion excl</td>
<td>30%</td>
<td>$70,000</td>
</tr>
<tr>
<td>Companion pred</td>
<td>7%</td>
<td>$68,000</td>
</tr>
<tr>
<td>Food Animal pred</td>
<td>3%</td>
<td>$67,000</td>
</tr>
<tr>
<td>Mixed</td>
<td>9%</td>
<td>$64,000</td>
</tr>
<tr>
<td>Uniformed Services</td>
<td>2%</td>
<td>$63,000</td>
</tr>
<tr>
<td>Equine</td>
<td>2%</td>
<td>$47,000</td>
</tr>
<tr>
<td>Advanced Study</td>
<td>44%</td>
<td>$30,000</td>
</tr>
</tbody>
</table>

1 in 10 owners earned 2-3 x the median owner income

Where is the large animal veterinary work?

Depends on:
- Species interest
- Geographic density of those animals

Use the USDA Census of Agriculture to find county livestock numbers
2012 results

Where is the cow-calf work?

~29 million head of calved beef cows

Dairy work?

~9 million head of dairy cows

Horse work? Probably not equine exclusive (>90%)

~4 million head of horses

Clarify your family value priorities and understand the practice economics for your species interest early in your decision process!

Unless you are independently wealthy, avoid mistaking an avocation for a vocation!
What’s unique about Food Supply Veterinary practice compared to small animal practice?

Besides small animal practice being indoors out of the weather, cleaner, smaller critters, . . . .

FSVM: Food Supply Veterinary Medicine

Who is the ultimate FSVM client?

Anyone in the food supply chain who ignores this does so at their (and their client’s) peril!
- Producer
- Veterinarian
- Processor
- Marketer
- Service Establishment

The Consumers

Public (consumer) risk perception is neither straightforward nor necessarily rational!

Which are the jackhammers and which are the cigarettes?

Consumers enforce social control if social license (public trust) is lost

- Public Trust: Belief that producer practices are consistent with social expectations and values
  - Shared values are 3-5 times more important than demonstrating competence
- Social License: Freedom to operate with minimal formal restrictions in presence of public trust
- Social Control: Operating under formal restrictions in absence of public trust
  - Legislation, regulation, market requirements (Yum Foods, McDonalds, . . . )

The Five Freedoms capture social expectations

1. Freedom from Hunger and Thirst
   - Ready fresh water access and a diet for full health and vigor
2. Freedom from Discomfort
   - Appropriate environment including shelter and comfortable resting area
3. Freedom from Pain, Injury, or Disease
   - By prevention or rapid diagnosis and treatment
4. Freedom to Express Normal Behaviour
   - Sufficient space, proper facilities, and company of one’s own kind
5. Freedom from Fear and Distress
   - By ensuring conditions and treatment that avoid mental suffering

Driving incorporation of pain management into common husbandry procedures (e.g., castration, dehorning, branding)
To protect their brands, the larger suppliers, retailers, and chains are driving requirements

Yum! Brands 2012 Corporate Responsibility Report

**ANIMAL WELFARE**

“The well-being of animals used in the production of foods for our restaurants is very important. We work closely with the experts on our Animal Welfare Advisory Council to ensure application of science-based, humane animal handling practices. Our suppliers are expected to share our commitment to humane handling of animals and we monitor their performance.

Our goal is to work only with suppliers that demonstrate and maintain compliance with animal welfare practices.”

Dr. Scott Brooks, Veterinarian & Director, QA & Animal Welfare

http://www.yumco.com/food/animal-welfare.asp

Food Supply Veterinary Medicine is focused on prevention

Prevention economics beat cure economics most of the time

With increasing herd size, what the veterinarian does changes

- Livestock are produced on fewer but larger farms
  - 6% of livestock operations produce 71% of livestock sales
- Become less of a “doer” and more of a trainer of the “doer,” who is a farm employee
  - Involved in employee selection, training and monitoring
  - Traditional feedlot veterinarian role
- Develop farm-specific standardized operating protocols (SOP) that are executed by employees
  - More consistent practices in critical areas
  - Better preventive practices reduce treatment needs
- Fewer veterinarians cover more cows
  - Midwest – small dairy herds: 1 vet to ~6,000 cows
  - New Mexico – large dairy herds: 1 vet to 20,000+ cows

Bad Management overwhelms the Best Vaccine every time!

Introduction to Herd Production Medicine
http://www.vetmed.wsu.edu/courses-jmgay/PMIntroduction.htm
Segue – Buddy, the family dog

Flossing

Packed for college

What is a new student to do?

To become a FSV, major in animal science, production track!
- Learn the basic food supply system components well
  - Soils, crops, animals, environment, farm input and food supply chains
- Take ruminant nutrition that you can
  - Feed is >50% of production costs
- Take reproductive physiology that you can
  - % calf crop is largest profit factor
- Learn to palpate and do AI
- Take applied agricultural economics and ag business courses
  - Learn production accounting systems and data analysis
- Become an Excel maven
- FSVM is a business-to-business service!
- Take the capstone farm management courses
- Choose rigorous upper division, capstone courses in relevant subjects not in the veterinary curriculum over those that are!

Aim to become an excellent manager or herdsman!

Why applied animal science / farm management?
- Most disease problems involve nutrition and management
- Important decisions always involve economics and risk
  - Anyone not understanding economics of alternatives is much less useful to producers
- Much allied industry "competition" has this academic background

Field and Taylor, 5th ed.

Veterinary herd production medicine texts contain much animal science and production management

Basic Concepts for Cow-Calf Herd Health Programs

What makes you worth an above average salary?

<table>
<thead>
<tr>
<th>Employment Type</th>
<th>&lt; $51,000</th>
<th>&gt; $91,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Animal excl</td>
<td>20%</td>
<td>15%</td>
</tr>
<tr>
<td>Uniformed Services</td>
<td>10%</td>
<td>6%</td>
</tr>
<tr>
<td>Companion excl</td>
<td>9%</td>
<td>4%</td>
</tr>
<tr>
<td>Mixed</td>
<td>18%</td>
<td>3%</td>
</tr>
<tr>
<td>Equine</td>
<td>60%</td>
<td>3%</td>
</tr>
<tr>
<td>Food Animal pred</td>
<td>4%</td>
<td>2%</td>
</tr>
<tr>
<td>Advanced Study</td>
<td>99%</td>
<td>-</td>
</tr>
</tbody>
</table>

excl = exclusive (>90%)
pred = predominate (>50%)

How to be worth a $100K starting salary

Know your industry completely inside and out:
- Be qualified to work as a manager or herdsman
- Have selected "practice ready" skills and knowledge
- Maximize your learning (time is your most scarce resource)
  - Use university teaching and learning services and websites

Outside of class:
- Spend at least one summer as hired labor on a 2,000+ cow operation
- Join Toastmasters to improve your verbal communication
- Practice leadership skills in student clubs
- Learn Agricultural Spanish
- Regularly scan trade magazines and websites (e.g., Ag Web, Beef Blog, Drover's, Heidt's)

Deliberate practice, deliberate practice – 50+ hours to gain minimal competence in a new skill
The veterinarians who do the best economically are paradigm-changing entrepreneurs

- Emphasize:
  - Those services purchased more by good managers than by bad
  - (Conventional practice is the opposite)
- Capture an old market:
  - Solve problems preventing service consumption
  - Old services delivered more cheaply
- Create a new market:
  - New value-added service using new technology
- Entrepreneurship
  - Develop new business models
  - Learn marketing; the profession doesn’t market itself well
- Change is constant!

Schumpeter’s free-market "creative destruction" process

Invest in specific literacies that are important in any profession but may not be part of the degree

- Communication literacy
- Economic literacy
- Financial literacy
- Information literacy
- Marketing and Salesmanship literacy
- Sell successfully
- Quantitative literacy
- Statistical literacy
- Critical Thinking and Decision Making

Richard St. John: "8 to be great" keys to success

http://www.ted.com/speakers/richard_st_john

For more on FSV concepts and related issues, see:

- Introduction to Herd Production Medicine
  - See: "How to get there from here?" (in "Contents" list)
- Basic Concepts for Cow-Calf Herd Health Programs
- Epidemiology Concepts for Disease in Animal Groups
- My Business Book List (For understanding the veterinary professional service business of serving businesses)
- Veterinary Marketing and Salesmanship
- Evidence (and Opinions) on the Future of Ag Animal Practice

Google "wsu jmgay" for my index page with these links