A Hybrid Curriculum With Clinical Tracking

Purdue University
School of Veterinary Medicine
DVM Learning Outcomes

– Problem-solving skills
– Communication skills
– Learning skills
– Teamwork skills
– Information management skills
– Financial and business management skills
Philosophy of the DVM Curriculum

• Limit required course load to 18 credits
• Focus on principles & concepts
• Promote interdisciplinary integration
• Provide all students with a broad overview of all major domestic species
• Tracking in clinical studies
Philosophy of the DVM Curriculum

- Actively engage the student
- Promote independent, lifelong learning
- Develop problem-solving skills, critical thinking skills
- Develop communication & teamwork skills
Delivery Method

• Problem-based learning (PBL)
  – Student-centered, active learning
  – Faculty-intensive
  – Requires a major change in mindset

• Traditional lecture/lab
  – Efficient
  – Passive

• Decided on Hybrid Curriculum: PBL integrated with traditional lecture/labs
# 1st Year – Normal Animal

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anatomy I &amp; II</td>
<td>6.5</td>
</tr>
<tr>
<td>Histology &amp; Embryology I &amp; II</td>
<td>6</td>
</tr>
<tr>
<td>Physiology I &amp; II</td>
<td>7</td>
</tr>
<tr>
<td>Neuroscience</td>
<td>2</td>
</tr>
<tr>
<td>Immunology</td>
<td>2</td>
</tr>
<tr>
<td>Principles of Pharmacology</td>
<td>1.5</td>
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<tr>
<td>Professionalism, Jurisprudence &amp; Ethics</td>
<td>1</td>
</tr>
<tr>
<td>Grand Rounds</td>
<td>0</td>
</tr>
<tr>
<td>Behavior, Husbandry &amp; Diag Tech I &amp; II</td>
<td>4</td>
</tr>
<tr>
<td>Applications &amp; Integrations I &amp; II</td>
<td>6</td>
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</tbody>
</table>
Applications & Integrations (A&I)

• Series of problem-based learning courses in semesters 1-4
• Students work in groups of 7 with a tutor
• Work through clinical cases that emphasize basic science principles
• Oral examinations
A&I Goals

- Students acquire, integrate and apply information to solve problems
- Increase students’ sense of responsibility for learning
- Improve understanding of how basic science material provides foundation for solving problems
- Improve retention
A&I Goals

• Increase students’ awareness of ethical and societal issues
• Foster development of good communication, teamwork and interpersonal skills
• Foster development of self-assessment skills
Behavior, Husbandry and Diagnostic Techniques Courses

- Labs provide broad exposure to many species early in curriculum
- Restraint, husbandry, physical exams
- Expose students to production methods of various species
- Federal accreditation instruction
Behavior, Husbandry and Diagnostic Techniques Courses

- Enable students to develop psychomotor skills throughout curriculum
- Aid students in choosing track
- Comprehensive practical exams
First Year - Normal Animal

- Behavior, Husbandry, Dx Tech
- A&I
- Professionalism
- Basic Science
2nd Year – Response to Injury and Disease

Credits

• General & Systemic Pathology 8
• Clinical Pathology 4
• Bacteriology/Mycology 4
• Virology 3
• Parasitology I & II 5
• Principles of Epidemiology 1
• Pharmacology I & II & Prin Toxicology 5
• Grand Rounds 0
• Behavior, Husbandry & Diag Tech III 1
• Applications & Integrations III & IV 5
3rd Year Core/Elective Format

• Courses organized along species lines
• Core Courses
  – Required for all tracks
  – Cover all major domestic species and major disciplines
• Selection Required
  – Minimum number of required credits in a discipline
  – Student chooses species focus
• Electives
  – Based on track and career goals
Third Year

- Core
- Selection Req
- Elective
Semester 5

Semester 6
# 3rd Year - Diagnosis & Treatment

<table>
<thead>
<tr>
<th>Core</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>• SA Medicine/Surgery</td>
<td>5.5</td>
</tr>
<tr>
<td>• Equine Medicine/Surgery</td>
<td>2.5</td>
</tr>
<tr>
<td>• Ruminant Med/Surgery</td>
<td>2</td>
</tr>
<tr>
<td>• Swine Production Medicine</td>
<td>1</td>
</tr>
<tr>
<td>• Anesthesia, Surgery, Emerg Medicine</td>
<td>2</td>
</tr>
<tr>
<td>• General Surgery Lab</td>
<td>1</td>
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<tr>
<td>• Achieving Success in Private Practice</td>
<td>1.5</td>
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</table>
### 3rd Year - Diagnosis & Treatment

<table>
<thead>
<tr>
<th>Core</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Public Health &amp; Zoonoses</td>
<td>2</td>
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<tr>
<td>• Diagnostic Imaging</td>
<td>1</td>
</tr>
<tr>
<td>• Comparative Theriogenology</td>
<td>1</td>
</tr>
<tr>
<td>• Ophthalmology</td>
<td>0.5</td>
</tr>
<tr>
<td>• Grand Rounds</td>
<td>0</td>
</tr>
<tr>
<td>• Clinical Applications</td>
<td>2</td>
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</tbody>
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Clinical Applications

- 3rd year progression of A&I courses into clinics
- Mon, Wed, Fri AM; Tues, Thurs PM
- Each student spends:
  - 1 week in LAM
  - 1 week in LAS
  - 1 week in SAM
  - 1 week in SAS/SA community practice
  - 0.5 week in Diagnostic Lab
3rd Year - Diagnosis & Treatment

Selection Required

- Surgery Labs
- Theriogenology
- Toxicology
- Epidemiology
- Diagnostic Imaging
4th Year Track Selection

- Small Animal
- Equine
- Food Animal
- Large Animal
- Companion Animal
- Mixed Animal
- Non-practice
4th Year – Clinical Rotations

• 17 3-week blocks

• Required for all tracks:
  – Medicine (SA and/or LA)
  – Surgery (SA and/or LA)
  – Community practice block (1° care)
  – Anesthesia
  – Ancillary (Clin path, micro, necropsy)
  – Externship (6 weeks)
  – Emergency Medicine/ICU (not counted in the 17 blocks)
Evolutionary Changes

- Reduced 4th semester A&I to 2 credits to increase Systemic Pathology credits
- Modified the A&I courses to reduce number of faculty tutor slots
- Eliminated 2nd semester of Clinical Applications to accommodate electives
Evolutionary Changes

• Adjusted schedule to maximize elective availability and balance student work load

• Combined electives
  – Equine Toxicology + Food Animal Toxicology
  → Large Animal Toxicology

• 3rd year SA Imaging lecture course became prerequisite for 4th year Imaging Block
Increased Focus on Communication Skills, Diversity, Critical Thinking

• Incorporated into A&I courses:
  – MBTI
  – DiSC assessment
  – Bayer communications modules
  – Diversity issues
  – Information literacy
  – Evidence-based medicine
Fourth Year Changes

• Combined two tracks: Swine and Bovine Tracks → Food Animal Track
• Added business assignment to externship
• Added electives
• Changed from 10 5-week blocks to 17 3-week blocks to accommodate additional required blocks
• Added community practice requirement
Strengths

• A&I courses engage students and improve understanding of basic sciences
• A&I encourages development of independent learning skills, communication skills, teamwork
• Faculty get to know students earlier in the curriculum by tutoring
Strengths

• Hands-on experience from 1st semester motivates students
• Flexibility
• Core/elective format allows addition of electives in emerging areas, e.g. Shelter Medicine
• Students can tailor curriculum to their interests
• Tracking aids in student recruitment
Strengths

• Students have a broad enough education to be successful on NAVLE regardless of track
• Students can achieve more extensive clinical experience in a focused area
• Graduates are practice-ready