I). Course Description:

Radiology and Ultrasound 3 is an advanced-level veterinary technology course designed to provide information in the areas outlined in the topic schedule. Students must read the required materials, successfully complete the workbook and clinical assignments, and pass the scheduled exams to receive credit for the course.

II). Course Objectives:

This course and its prerequisite courses (VETT 1006 - Radiology and Ultrasound 1 and VETT 1013 - Radiology and Ultrasound 2) integrate the following essential and recommended tasks for veterinary technicians as published by the American Veterinary Medical Association's Committee on Veterinary Technician Education and Activities. The following tasks are found under the heading of Radiology and Ultrasound Imaging.

A. Implement and follow recommended safety measures

B. Prepare and use technique charts

C. Take diagnostic radiographs
   1. Position large and small animal patients
   2. Use Orthopedic Foundation of America (OFA) applications/positioning for canine hip dysplasia
   3. Position laboratory and exotic animals

D. Process diagnostic radiographs
   1. Use hand processing in darkroom
   2. Maintain quality control
   3. Label, file, and store film
   4. Use automatic processing

E. Properly care for equipment
   1. Clean screens
   2. Recognize faulty equipment operation

F. Properly use both stationary and portable x-ray machines

G. Perform various contrast media studies (including GI series, pneumocystogram, and intravenous urogram)

H. Use ultrasonography equipment
IMPORTANT

Because Radiology and Ultrasound 3 is a veterinary technician level course, students must complete all CVTEA essential and many recommended tasks and indicate completion on the Course Task Checklist. The following is a list of the materials, supplies, and equipment that may not be commonly found in some veterinary practices that will be required for successful completion of the Course Task Checklist. You and your preceptor should make arrangements to purchase, borrow, or have access to the following as soon as possible in the course.

III). Program Information:

Program Phone:                1-877-353-3482
Office Hours:                  8:00 AM to 5:00 PM Monday - Friday (Central Time Zone)
Program Fax:                    1-972-860-8057
Information:                     http://ollie.dcccd.edu/vettech
Mailing Address:              Cedar Valley College
                             DEVTP Program
                             3030 N. Dallas Avenue
                             Lancaster, TX 75134

IV). Course Instructor:

David L. Wright, D.V.M.

Instructor Email:            DLW3505@dcccd.edu
Instructor Phone:            1-877-353-3482

V). Course Materials:


C). Practical Diagnostic Imaging for the Veterinary Technician by Han and Hurd, 2nd edition, Mosby, 2000

E). Course Workbook

F). A medical dictionary such as *Stedman's Illustrated Medical Dictionary,* *Dorland's Illustrated Medical Dictionary,* or *Saunders Comprehensive Veterinary Dictionary*

VI). Clinical Preceptors:

Preceptors are extremely important to your success in the course. Being a preceptor is a position that requires time, commitment, and dedication. In most cases it is advantageous for students to have multiple preceptors, each with an interest in a specific area. In some practices, only one or two people may qualify to serve as a preceptor. However, in other practices, many individuals may be qualified to serve in this capacity. Multiple preceptors will decrease the burden on any one person in the practice in his or her preceptor responsibilities and assist the student in the completion of assignments and examinations. Each student is required to have at least one qualified preceptor for the course or courses for which they are enrolled. All preceptors must meet the minimum requirements for preceptor approval. Each preceptor must be a graduate D.V.M. or V.M.D., a graduate of an AVMA/CVTEA-accredited program of veterinary technology, or a person credentialed as an RVT, LVT, or CVT. Preceptors must always directly witness, participate in, or personally initial check-off sheets for assignments for the student to receive credit. Preceptors should never sign on weekly assignment lists or any other document without directly meeting these requirements. Preceptors are required to complete, monitor, and maintain Off Campus Clinical Instruction (OCCI) Standards.

Individual applications must be submitted and approval granted for each preceptor. New preceptors may be added at any time. To add a new preceptor, just contact the program office and we will fax or mail you an additional preceptor form.

VII). Student Code of Conduct:

Students in distance education courses are expected to follow the rules and policies stated in the student code of conduct in the Cedar Valley College and D.C.C.C. catalog. Failure to follow these rules may result in disciplinary action by the instructor and/or the college.
VIII). Important Information:

This course is an intermediate-level veterinary technology course. As such, you may be required by the assignments in this workbook to perform tasks reserved by law or statute for credentialed veterinary technicians. It is imperative that you follow the requirements of your locality regarding the tasks assigned in this workbook. You should follow the assignment schedule in the course workbook, and NOT use your enrollment in the DEVTP as a means of circumventing local laws or regulations. If laws disallow you from performing a given procedure, your preceptor should note that on the preceptor checklist. Points will not be deducted if a procedure is not performed because of legal constraints. Neither Cedar Valley College nor the American Animal Hospital Association advocate students performing tasks not legally allowable for non-credentialed individuals. However, as a student in DEVTP courses you may have certain rights as a student depending on your locality.

Please check your state or provincial regulations carefully and always follow them.
IX). Submission of Assignments:

A). All written work and required submissions should be submitted by Email directly to the specific staff member that administers that class.

B). You should submit your work **ONLY** to the person that administers each of your individual courses.

C). You should use your private Email account to send in all work either as a word processed document attachment, preferably in MS Word, or as a scanned attachment.

D). Please do not send in homework as the actual text of the Email.

E). The subject line of the Email should list the class and the week that you are sending. For example the subject line should read something like "VETT 1001 - Week Five". In the body or text of the Email you must give us your name. We have no way of knowing who you are just from the Email address. You **MUST** give us the class, the week, and your name to receive credit for the submission.

F). The Weekly Preceptor Checklist should be signed each week by your preceptor, and then you should scan it and send it in as an Email attachment with your weekly submissions.

G). If you do your work in freehand, it must be neat, legible, and in done in dark ink. Pencil will not show up if it is scanned and then sent.

H). For more specific information on how to send work as an Email attachment and how to scan, save and send information, please see the posted directions in the "Assignments" section of your site.
IX). Student Credit and Grading:

A). To receive a passing grade for this course students must achieve an average grade of 70 percent or greater for the course. Since the course is both clinical and didactic, students should complete the written and clinical assignments and the tests with a grade of 70 percent or better. Examination and assignment grades will be available to students through the BlackBoard Course Information system. Students should check the “Check Grade” section of “Student Tools” in BlackBoard daily to ensure that assignments and exams have been received and posted. Assignment grades should be posted by the Monday following the assignments due date. At peak submission times there may be an additional 24- to 48-hour delay in posting grades. All earned points will be added together and divided by the number of total possible points to determine the final course grade as a percentage. This percentage grade will be mailed to students at the end of the course. Grades will be posted on each student’s official college transcript as CP (Credit Passing) or as CF (Course Failure). If students wish to be eligible to convert courses to college credit at a later date, a 70 percent score (CP) will be required for each course, and the student must meet applicable Off-Campus Clinical Instruction requirements. Students may finish and submit assignments ahead of the workbook schedule, but assignments and required course work must be submitted by the end of the week that they are due or the submissions are subject to the point penalty described in part D. below. Students are very strongly encouraged to work at the pace set in the workbook to achieve the maximum benefit and learning from the course. Final course grades and a certificate will be mailed to students at the end of the term after final grades are calculated.

B). Final numerical grades will be based on the following scale: 90% or greater of the total points. 100% to 90% = A, 89% to 80% = B, 79% to 70% = C, and below 70% = F.

C). Emails will be sent directly to you with specific information on any corrections to your submitted work. If you receive a perfect score, we will post the grade and will not send back your assignments. If we do have corrections or comments on your assignments we will put those in the form of an email and send that to you as soon as possible after grading your work. It is therefore essential that you enter your email address in your course site and that it is visible in the “Roster” section in each and every one of your course sites. You will need to check your class grades and email messages daily. This procedure will insure that you will have corrected assignments and feedback as soon as possible to use to in studying for your exams. Often corrected work can be in the mail when you need it the most as a study resource. The email that we send you will list the name of the class, which assignment it is, which question it is, and the correct answer or comments on your submission. This will allow you to get better feedback, much more quickly. If you wish to receive your paper copies back in the mail, just send them to us by U.S. mail and include a stamped, self-addressed envelope, and once your assignments are graded we will mail
them back to you in the return envelope. If you choose to submit your work by U.S. mail, the required work MUST be received by the date the work is due, not the post mark date. This will insure that assignments and submissions are received, graded and returned in a timely manner.

**D). Please Note:** Points will be deducted for persistently late or tardy submission of assignments and required course work. A 25% point-loss, per week, penalty will be assessed for persistently late work. If you are going to be more than a week late in submitting your course work, you should contact the person that administers your class in writing or by email, let them know what the situation or problems is, and request an extension. To keep good records and to insure that everyone is clear on your expectations, all requests MUST be made by email or in writing. There is too much chance of miscommunication or confusion if the situation is handled strictly on the phone. If we are in contact with you and know what is happening, we can make suitable arrangements to accept late work without penalty. Work submitted late, without prior approval is subject to the tardy submission penalty stated above. If students have not submitted enough assignments and completed enough exams to maintain a passing average by Unit Six, they and their preceptors will be sent a letter of Administrative Withdrawal (AW) by the program.

**E).** In level 3 classes that require a video submission (General Hospital 3, Exam Procedures 3, and Surgical Procedures 3), the required videos must be submitted and received no later than the end of week 10. In all classes, including those, all written and clinical assignments, including course task checklists, are due at the end of week 11 of the course. The last week of classes, week 12, is to be utilized strictly as “finals week” and students should use that period to complete final written exams in their course(s). Written assignments, clinical assignments, and course task checklists received after the end of the 11th week will be subject to the same point penalties as any other assignment. It is important that you complete all your submissions, except for final on-line exams, before the end of the week 11.

**F).** From time to time students may request an extension beyond the end course date. Extensions may only be granted for reasons of personal illness or injury, close family member illness or injury, or the death of an immediate family. To receive an extension beyond the end term date, students must provide proper documentation of their illness or injury, their immediate family members illness or injury, or the death in the family. In the case of illness or injury this will require a specific signed letter from a physician. In the case of a death in family a published death notice or suitable external documentation will be sufficient. In both cases students must also provide a signed letter from an approved preceptor or a practice manager stating that the circumstances for the requested extension were sufficient to require that the student was not able to accomplish a specific number of days assignments. End of course extensions will be commensurate with the time that the student was unable to complete required course work. If you were out sick a week, it is appropriate to grant a weeks extension, and so on. If there are any other requests for extension they should be directed to both the course instructor and the course
administrator. Requests for end of term extensions other than injury, illness or a death in the family will be handled on a case by case basis. The final decision to grant end of course extensions will rest with the course instructor.

**G)** You will have on-line exams in this class. The exam will be posted one week before the actual exam week, and will remain available until one week past the assigned exam week. At the end of the third week that the exam was posted it will be made unavailable and may not be taken after that date without the specific approval of the course instructor. Approved excuses to take the exam after it has been made unavailable include documented personal injury or illness, close family member injury or illness, or a death in the family. (See F. above)

**H)** If students feel that they have received an unfair evaluation on an assignment or exam, they should contact the instructor to resolve the situation. If a student wishes to appeal the decision of the instructor, the student should contact the Veterinary Technology Program Director.
X). Specific Point Values for Assignments and Examinations:

<table>
<thead>
<tr>
<th>Week</th>
<th>Task or Assignment</th>
<th>Points</th>
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<tbody>
<tr>
<td></td>
<td>On-Line Assignments</td>
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<td>Weekly Tutorials</td>
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<td>OSHA Exam</td>
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<td>Weekly Checklist</td>
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<td>2</td>
<td>Weekly Checklist</td>
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<td>Maintenance Log</td>
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<td>3</td>
<td>Weekly Checklist</td>
<td>5</td>
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<td>Weekly Checklist</td>
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<tr>
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<td>Weekly Checklist</td>
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<tr>
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<td>Course Task Checklist</td>
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<td>12</td>
<td>Exam Two</td>
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Total Points Possible 785

Grading Scale:

785 to 707 points = A
706 to 625 points = B
624 to 550 points = C
549 and below points = F
### XI. Course Assignment Schedule:

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Lavin</th>
<th>Han and Hurd</th>
<th>Cochran</th>
<th>Spurgeon</th>
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<tr>
<td>1</td>
<td>Radiation Safety</td>
<td>pp. 25-36</td>
<td>pp. 39-44</td>
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<td></td>
<td>X-Ray Equipment</td>
<td>pp. 3-23</td>
<td>pp. 3-8, 29-30</td>
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<td></td>
<td>Image Receptors – Cassettes, Film, and Screens</td>
<td>pp. 61-74</td>
<td>pp. 25-28</td>
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<td>Radiographic Quality</td>
<td>pp. 45-60</td>
<td>pp. 10-21</td>
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<td>Positional Terminology</td>
<td>pp. 148-152</td>
<td>pp. 59-60</td>
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<td>Exposure Factors</td>
<td>pp. 37-43</td>
<td>pp. 22-24</td>
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<td>Film Processing</td>
<td>pp. 75-90</td>
<td>pp. 32-38</td>
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<td>Artifacts and Errors</td>
<td>pp. 127-143</td>
<td>pp. 50-55</td>
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<td>Quality Control/Assurance</td>
<td>pp. 107-126</td>
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<td>X-Ray Equipment Maintenance</td>
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<td></td>
<td>Implementing Safety Measures</td>
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<td>Radiographic Anatomy - The Forelimb</td>
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<td>Developing a Technique Chart</td>
<td>pp. 99-105</td>
<td>pp. 45-49</td>
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<td>Using a Technique Chart</td>
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<td>4</td>
<td>Radiographic Anatomy - The Hindlimb and Pelvis</td>
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<td>Orthopedic Foundation for Animals</td>
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<td>Positioning - The Forelimb</td>
<td>pp. 155-173</td>
<td>pp. 88-105</td>
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</table>
| 5 | Radiographic Anatomy  
- The Thorax  
Positioning - The  
Hindlimb and Pelvis  
Large Animal  
Comparative  
Anatomy | pp. 175-192  
pp. 111-124 | pp. 112, 204-228, 238-248 |
| 6 | Radiographic Anatomy  
- The Abdomen  
Positioning - The  
Thorax  
Large Animal  
Radiography | pp. 227-231  
pp. 188-226 | pp. 174-194  
pp. 106-108  
pp. 3, 5, 8, 10, 11 |
| 7 | Radiographic Anatomy  
- The Head and  
Spine  
Positioning - The  
Abdomen | pp. 232-233  
pp. 109-110 | pp. 110-115  
Examination One |
| 8 | Positioning - The Head  
and Spine  
Small Animal Dental  
Radiography | pp. 193-223  
pp. 61-87 | pp. 193-223  
pp. 61-87  
pp. 126-130 |
| 9 | Special Procedures | pp. 235-252 | pp. 131-157 |
| 10 | Ultrasound Principles | pp. 228-271 |
| 11 | Exotic Animal  
Radiography | pp. 158-186 |
| 12 | Final Examination | |
XII). When Your Assignments are Due:

Specific information on the specific dates and times that assignments are due is posted on your course web site in the "Assignments" section. Please consult it and follow the assignment and exam schedule that is posted there.

XIII). OSHA

Safety in any employment situation is a vital and important issue. Good and safe work habits are critical for success in your job. For these reasons, the required OSHA examination is available the first week of each DEVTP course. Even if you have received a passing grade on this exam in a previous course, you are required to complete and pass the OSHA exam posted on the course web site in each subsequent class. The exam is worth 20 points in level 1 courses and 10 points in all subsequent classes. Regardless of the number of points that you have, you MUST take and make a score of 70% or greater on this exam to receive credit for this course.

XIV). Academic Honesty:

Strict academic honesty is expected, and personal and professional integrity is valued in the Dallas County Community Colleges. Scholastic dishonesty is a violation of the Code of Student Conduct. Scholastic dishonesty includes, but is not limited to, cheating on a test, plagiarism, falsifying documents, forgery, and collusion. As a college student, you are considered a responsible adult. Your enrollment indicates acceptance of the DCCCD Code of Student Conduct published in the DCCCD Catalog. More information is available at https://www1.dcccd.edu/cat0406/ss/code.cfm.

XV). Student Course Handbook

Each semester a Student Course Handbook will be posted as the first item in the "Course Documents" section of each class BlackBoard site. You should download and read the Handbook carefully each term. It will contain information on when your online assignments are due, the time limits on completing on line assignments, taking exams, important registration dates, expectations of students, and other important information. If you do not read though the Handbook you will miss changes in the classes, updates to information, and items that may affect your grades. Please download the Handbook and read it carefully and thoroughly.