Course Name: Human Virology
Course Number: MB 340, cross-listed as BHS 340
Term Offered: Winter 2019
Credits: 4
Instructor name: Theo Dreher
Instructor email: theo.dreher@oregonstate.edu
Instructor phone: 7-1795
Link to instructor bio or website: http://microbiology.science.oregonstate.edu/content/dr-theo-dreher
Teaching Assistant name and contact info: N/A

Course Description
Properties of viruses, their biology, pathogenesis and concern to society. Emphasis on viruses causing human disease. PREREQs: 12 credits of university biology

Communication
Please post all course-related questions in the General Discussion Forum so that the whole class may benefit from our conversation. Please email your instructor for matters of a personal nature. The instructor will reply to course-related questions and email within 24 hours, and will strive to return your assignments and grades for course activities to you within five days of the due date.

Course Credits
This course combines approximately 130 hours of instruction, online activities, study and assignments for 4 credits.

Technical Assistance
If you experience any errors or problems while in your online course, contact 24-7 Canvas Support via chat, phone, or e-mail through the Help link within Canvas. If you experience computer difficulties, need help downloading a browser or plug-in, or need assistance logging into a course, contact the OSU Help Desk for assistance. You can call (541) 737-3474, email osuhelpdesk@oregonstate.edu or visit the OSU Computer Helpdesk online.

Learning Resources

Note to prospective students: Please check with the OSU Bookstore for up-to-date information for the term you enroll (OSU Bookstore Website or 800-595-0357). If you purchase course materials from other sources, be very careful to obtain the correct ISBN.

Canvas
This course will be delivered via Canvas, where you will interact with your classmates and with your instructor. Within the course Canvas site, you will access the learning materials, such as the syllabus, class discussions, assignments, projects, and quizzes. To preview how an online course works, visit the Ecampus Course Demo. For technical assistance, please visit Ecampus Technical Help.

This course is offered through Oregon State University Extended Campus. For more information, contact:
Web: ecampus.oregonstate.edu Email: ecampus@oregonstate.edu Tel: 800-667-1465
Measurable Student Learning Outcomes
At the completion of the course, you should be able to:

1. discuss the properties of viruses using the specialized language relevant to virology;
2. name key pathogenic viruses and the diseases they cause;
3. explain the basic design, infection, replication strategy and disease causality of viruses;
4. communicate and explain in writing key aspects of virology;
5. discuss currently exciting topics and issues in the field of virology.

Bacc Core / Slash Course / WIC
N/A

Evaluation of Student Performance
- Online Discussions – 20 points
- Weekly quizzes – 100 points
- Assignments – 400 points
- Crosswords – 80 points
- Midterm Exam – 200 points
- Final Exam – 200 points
- Total – 1000 points

Grading Scale
A 93-100%; A- 90-92%; B+ 87-89%; B 83-86%; B- 80-82%; C+ 76-79%; C 70-75%; C- 65-69%;
D+ 60-64%; D 55-59%; D- 50-54%; F Less than 50%

Course Content
Week 1: Virus structure & classification; Cell biology review
Week 2: Molecular biology review; viral molecular biology; DNA virus replication schemes
Week 3: Replication schemes of RNA and reverse transcribing viruses; virus transmission and epidemiology
Week 4: Innate and adaptive immune responses to virus infection; detection and diagnosis of viral disease
Week 5: Vaccines and antiviral drugs; viruses and cancer
Week 6: Influenza virus and disease
Week 7: Human immunodeficiency virus and AIDS
Week 8: Viral hepatitis; poliovirus disease and eradication
Week 9: Herpes viruses and disease; poxviruses and smallpox eradication
Week 10: Emerging and re-emerging viral disease
<table>
<thead>
<tr>
<th>Course Learning Outcome</th>
<th>Learning Activities</th>
<th>Measurement (points graded)</th>
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<tbody>
<tr>
<td><strong>Course Learning Outcome</strong></td>
<td>“After successful completion of this course, you will be able to…”</td>
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<td><strong>Learning Activities</strong></td>
<td>Text reading (Ch. 1-3, pp 1-36), lectures, study, quiz questions, crosswords, assignment #1, discussion</td>
<td>Gen. Discussion post (2), Assignment #1 (16), Crossword (10), Quiz questions (10)</td>
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<td><strong>Measurement</strong></td>
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<td><strong>Week 1:</strong> Describe the variety of genome type and structure among viruses; Recall basic cell biology</td>
<td>Text reading (Ch. 1-3, pp 1-36), lectures, study, quiz questions, crosswords, assignment #1, discussion</td>
<td>Gen. Discussion post (2), Assignment #1 (16), Crossword (10), Quiz questions (10)</td>
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<td><strong>Week 2:</strong> Recall basic molecular biology; describe aspects of viral molecular biology; compare &amp; contrast and summarize DNA virus replication strategies</td>
<td>Text reading (Ch. 3-4, pp 36-66 &amp; 63-69), lectures, study, quiz questions, crossword, assignment #2</td>
<td>Gen. Discussion post (2), Assignment #2 (50), Crossword (5), Quiz questions (10)</td>
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<td><strong>Week 3:</strong> Compare &amp; contrast, and summarize RNA and reverse-transcribing virus replication strategies; describe and distinguish different methods of virus transmission and spread (epidemiology)</td>
<td>Text reading (Ch. 4-5, pp 56-63 &amp; 71-92), lectures, study, quiz questions, crosswords, assignment #3</td>
<td>Gen. Discussion post (2), Assignment #3 (32), Crossword (10), Quiz questions (10)</td>
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<td><strong>Week 4:</strong> Describe and explain immune responses to viruses; describe and explain methods for virus detection and viral disease diagnosis</td>
<td>Text reading (Ch. 6-7, pp 93-131), lectures, study, quiz questions, crosswords, assignment #4 (case study, part B)</td>
<td>Gen. Discussion post (2), Assignment #4 (32), Crosswords (10), Quiz questions (10)</td>
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<td><strong>Week 5:</strong> Describe vaccine and antiviral drug treatment of viral diseases; explain and describe how viruses can cause cancer</td>
<td>Text reading (Ch. 8-9, pp 133-170), lectures, study, quiz questions, crosswords</td>
<td>Gen. Discussion post (2), Crosswords (10), Quiz questions (10), Midterm exam (200)</td>
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<td><strong>Week 6:</strong> Summarize the biology of influenza virus and influenza disease</td>
<td>Text reading (Ch. 10, pp 171-190), lectures, study, quiz questions, crossword, assignments #5, #6</td>
<td>Gen. Discussion post (2), Assignment #5 (50), Assignment #6 (25), Crossword (5), Quiz questions (10)</td>
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<td><strong>Week 7:</strong> Summarize the biology of HIV and AIDS disease</td>
<td>Text reading (Ch. 10, pp 171-190), lectures, study, quiz questions, crossword, assignments #5, #6</td>
<td>Gen. Discussion post (2), Assignment #7 (50), Assignment #8 (25), Crossword (5), Quiz questions (10)</td>
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<td><strong>Week 8:</strong> Summarize the biology of hepatitis and polio viruses relevant to disease; describe the poliovirus eradication program</td>
<td>Lectures, text reading (Ch. 11, pp 193-210), study, quiz questions, crossword, assignments #7, #8</td>
<td>Gen. Discussion post (2), Assignment #9 (25), Crosswords (10), Quiz questions (10)</td>
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<td><strong>Week 9:</strong> Summarize and explain the biology of herpes and pox viruses relevant to disease; describe how smallpox was eradicated</td>
<td>Lectures, text reading (Ch. 12 &amp; 14, pp 213-232 &amp; 257-270), study, quiz questions, crosswords, assignment #9</td>
<td>Gen. Discussion post (2), Crosswords (10), Quiz questions (10)</td>
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<td><strong>Week 10:</strong> Explain how human, ecological and viral factors influence emergence and reemergence of viral disease</td>
<td>Lectures, text reading (Ch. 16, pp 291-309), study, quiz questions, crossword, assignments #10, #11</td>
<td>Gen. Discussion post (2), Assignment #10 (70), Assignment #11 (25), Crossword (5), Quiz questions (10), Final exam (200)</td>
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Course Policies

Discussion Participation
Students are expected to participate in all graded discussions. While there is great flexibility in online courses, this is not a self-paced course. You will need to participate in our discussions on at least two different days each week, with your first post due no later than Wednesday evening, and your second and third posts due by the end of each week.

Proctored Exams
This course requires that you take exams under the supervision of an approved proctor. Proctoring guidelines and registration for proctored exams are available online through the Ecampus testing and proctoring website. It is important to submit your proctoring request as early as possible to avoid delays.

Makeup Exams
Makeup exams will be given only for missed exams excused in advance by the instructor. Excused absences will not be given for airline reservations, routine illness (colds, flu, stomach aches), or other common ailments. Excused absences will generally not be given after the absence has occurred, except under very unusual circumstances.

Exam Time Limits
Exams in this class are timed; if you exceed the time limit on an exam, you will be assessed a penalty of 10% for every five minute interval beyond the time limit.

Incompletes
Incomplete (I) grades will be granted only in emergency cases (usually only for a death in the family, major illness or injury, or birth of your child), and if the student has turned in 80% of the points possible (in other words, usually everything but the final test). If you are having any difficulty that might prevent you completing the coursework, please don’t wait until the end of the term; let the instructor know right away.

Guidelines for a Productive and Effective Online Classroom
Students are expected to conduct themselves in the course (e.g., on discussion boards, email) in compliance with the university’s regulations regarding civility.

Civility is an essential ingredient for academic discourse. All communications for this course should be conducted constructively, civilly, and respectfully. Differences in beliefs, opinions, and approaches are to be expected. In all you say and do for this course, be professional. Please bring any communications you believe to be in violation of this class policy to the attention of your instructor.

Active interaction with peers and your instructor is essential to success in this online course, paying particular attention to the following:

- Unless indicated otherwise, please complete the readings and view other instructional materials for each week before participating in the discussion board.
- Read your posts carefully before submitting them.
- Be respectful of others and their opinions, valuing diversity in backgrounds, abilities, and experiences.
- Challenging the ideas held by others is an integral aspect of critical thinking and the academic process. Please word your responses carefully, and recognize that others are expected to challenge your ideas. A positive atmosphere of healthy debate is encouraged.
Statement Regarding Students with Disabilities
Accommodations for students with disabilities are determined and approved by Disability Access Services (DAS). If you, as a student, believe you are eligible for accommodations but have not obtained approval please contact DAS immediately at 541-737-4098 or at http://ds.oregonstate.edu. DAS notifies students and faculty members of approved academic accommodations and coordinates implementation of those accommodations. While not required, students and faculty members are encouraged to discuss details of the implementation of individual accommodations.

Accessibility of Course Materials
All materials used in this course are accessible. If you require accommodations please contact Disability Access Services (DAS).

Additionally, Canvas, the learning management system through which this course is offered, provides a vendor statement certifying how the platform is accessible to students with disabilities.

Expectations for Student Conduct in this Online Classroom
Students are expected to conduct themselves in the course (e.g., on discussion boards, email postings) in compliance with the university's regulations regarding civility. Student conduct is governed by the university's policies, as explained in the Student Conduct Code.

Academic Integrity
Students are expected to comply with all regulations pertaining to academic honesty. For further information, visit Student Conduct and Community Standards, or contact the office of Student Conduct and Mediation at 541-737-3656.

OAR 576-015-0020 (2) Academic or Scholarly Dishonesty:
a) Academic or Scholarly Dishonesty is defined as an act of deception in which a Student seeks to claim credit for the work or effort of another person, or uses unauthorized materials or fabricated information in any academic work or research, either through the Student's own efforts or the efforts of another.
b) It includes:
   i) CHEATING - use or attempted use of unauthorized materials, information or study aids, or an act of deceit by which a Student attempts to misrepresent mastery of academic effort or information. This includes but is not limited to unauthorized copying or collaboration on a test or assignment, using prohibited materials and texts, any misuse of an electronic device, or using any deceptive means to gain academic credit.
   ii) FABRICATION - falsification or invention of any information including but not limited to falsifying research, inventing or exaggerating data, or listing incorrect or fictitious references.
   iii) ASSISTING - helping another commit an act of academic dishonesty. This includes but is not limited to paying or bribing someone to acquire a test or assignment, changing someone's grades or academic records, taking a test/doing an assignment for someone else by any means, including misuse of an electronic device. It is a violation of Oregon state law to create and offer to sell part or all of an educational assignment to another person (ORS 165.114).
   iv) TAMPERING - altering or interfering with evaluation instruments or documents.
   v) PLAGIARISM - representing the words or ideas of another person or presenting someone else's words, ideas, artistry or data as one's own, or using one's own previously submitted work. Plagiarism includes but is not limited to copying another person's work (including unpublished
material) without appropriate referencing, presenting someone else's opinions and theories as one's own, or working jointly on a project and then submitting it as one's own.

c) Academic Dishonesty cases are handled initially by the academic units, following the process outlined in the University's Academic Dishonesty Report Form, and will also be referred to SCCS for action under these rules.

**OSU Student Evaluation of Teaching**

Course evaluation results are extremely important and are used to help me improve this course and the learning experience of future students. Results from the 19 multiple choice questions are tabulated anonymously and go directly to instructors and department heads. Student comments on the open-ended questions are compiled and confidentially forwarded to each instructor, per OSU procedures. The online Student Evaluation of Teaching form will be available toward the end of each term, and you will be sent instructions via ONID by the Office of Academic Programs, Assessment, and Accreditation. You will log in to “Student Online Services” to respond to the online questionnaire. The results on the form are anonymous and are not tabulated until after grades are posted.