

Office of Undergraduate Education

**T CORE 102E: Introduction to Science**

**“People, Parasites, and Plowshares:**

**Learning from Our Body's Most Terrifying Invaders”**

**Autumn 17**

Course Information

**Class Times:** Tuesdays and Thursdays, 12:50-2:55 PM, TLB 115

**Instructor:** Karen Cowgill, PhD, MSc

**Office Location:** SCI 102D

**Office Phone:** 253-692-4784

**E-mail:** kdc8@uw.edu

The best way to get in touch with me is via email, as I check it regularly. While I will do my best to get back to you as soon as possible, don’t expect a prompt reply after hours or on weekends.

E-mail Policy: <http://www.tacoma.washington.edu/policies_procedures/E-mail_Policy.pdf>

**Walk-in Office Hours:** Tuesdays 3:30-4:30 PM, other times by appointment (send me an email so we can arrange a time)

**Please take advantage of my office hours.** I want to help you understand the material and will be happy to talk with you. A willingness to ask questions is the hallmark of a mature, serious student -- I am here to help you. But please don’t wait until you’ve fallen behind! Start early.

**Course Description**: This course will explore parasites that affect humans and sometimes cause serious diseases, like schistosomiasis or tapeworm. How are they spread? What strategies do they use to survive, and how does the human "host" deal with these "guests"? How have parasites influenced human culture and history, and how might they help us solve some of our toughest medical challenges?

The UW-Tacoma Core Program

The Core program consists of a coordinated series of courses that represent the various disciplines in the university. This course, along with the others in your cohort, fulfills one of the university’s general education requirements in each of the areas of knowledge plus composition. The courses are designed to both support and challenge you to develop the critical thinking, writing, research, and analytical skills you’ll need at UWT while introducing you to relevant topics in the social sciences, humanities, and sciences.

Reading Material

Student Purchase: Despommier, D. People, Parasites, and Plowshares. Columbia University Press, 2013.

Additional selections will be provided by instructor

Student Learning Objectives for Introduction to Science

Upon successful completion of a core intro to science course, you will be able to:

Apply the process of science

* Understand science is evidence-based and grounded in the formal practices of observation, experimentation, and hypothesis testing
* Understand and apply basic principles in experimental design
* Identify problem-specific methodologies
* Gain hands-on experience collecting data to draw conclusions
* Evaluate scientific information and the methods used to generate the information

Use quantitative reasoning

* Understand that mathematics underpins science
* Generate and interpret tables and graphs

Articulate the relationship between science, math, and society

* Understand science/math as a human endeavor in which all people can participate
* Understand how societal issues influence the direction of science and math
* Understand how science and math influence our everyday lives
* Build a sense of civic responsibility

Communicate effectively

* Formulate an original thesis-driven argument and sustain it in both written and oral communication.
* Express ideas clearly in writing and speaking; synthesize and evaluate information before presenting it.
* Identify, analyze, and summarize/represent the key elements of a text.

Explore global perspectives

* Think outside of cultural norms and values, including your own perspectives, to critically engage the larger world.

Objectives specific to this course:

By the end of this course, if you have worked diligently, you will be able to:

* List the steps of the scientific method and describe the basics of experimental design and the scientific process
* Define a pathogen and explain how protozoan and helminthic parasites differ from other pathogens
* For each parasite studied, state the scientific (Latin) name, the name, symptoms, treatment for and distribution of the disease it causes, its life cycle (including any insect vectors or intermediate hosts), how it evades the human immune system, and what possible beneficial uses it might have
* Distinguish between popular and scientific sources of information and demonstrate how to search for and retrieve examples of each
* Identify measures at the individual and community levels to control parasitic diseases, and develop evidence-based health education messages for prevention
* **Class Schedule**

See weekly descriptions on Canvas course site for class preparation details; schedule subject to change.

| **Tuesday** | **Topic** | **Thursday** | **Topic** |
| --- | --- | --- | --- |
|  |  | Sept 28 | Course Introduction |
| Oct 3 | Introduction to Pathogens, Parasites, and NTDs  **Read Despommier Foreword, Preface, Acknowledgments** | Oct 5 | Trichinellosis  **Read Despommier Ch. 1** |
| Oct 10 | Library Session and  The Immune System | Oct 12 | Hookworm  **Read Despommier Ch. 2** |
| Oct 17 | Soil-transmitted Helminths  **Read Despommier Ch. 5** | Oct 19 | LAB 1 – class meets in TPS 209 |
| Oct 24 | Midterm Review | Oct 26 | Midterm Exam |
| Oct 31 | Toxoplasmosis  **Read Despommier Ch. 4** | Nov 2 | Trypanosomiases  **Read Despommier Ch. 3a** |
| Nov 7 | Tapeworms  **Read Despommier Ch. 6** | Nov 9 | Schistosomiasis  **Read Despommier Ch. 3b**  LAB 2 – class meets in TPS 209 |
| Nov 14 | Lymphatic Filariasis  **Read Despommier Ch. 3c** | Nov 16 | Guinea Worm  **Read Despommier Ch. 7** |
| Nov 21 | Onchocerciasis  **Read Despommier Ch. 8** | Nov 23 | THANKSGIVING – NO CLASS |
| Nov 28 | Project Work | Nov 30 | Project Work |
| Dec 5 | Presentations | Dec 7 | Final Review |
| Dec 12 | Final Exam |  |  |

Course Requirements & Grading

***Assignments***

Read each assignment description (excluding in-class assignments) *well before* the due date and ask your instructor for clarification if needed. Assignments are to be completed individually, unless otherwise stated. Your instructor may not be able to access certain formats on Canvas, thus electronic submissions must be .doc, .docx, or .pdf.

Did you know that you and other UW students can get a **FREE subscription to Microsoft Office 365**? Visit <https://www.washington.edu/itconnect/wares/uware/microsoft/microsoft-office-365-proplus/>

**Final Grades**

Grading will be determined according to the Grading Contract posted on Canvas and agreed on by the class.

**Grading Scale**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Letter** | **% cutoff** | **UW decimal grade** |  | **Letter** | **% cutoff** | **UW decimal grade** |  | **Letter** | **% cutoff** | **UW decimal grade** |
| A | 97-100 | 4.0 |  | B- | 83 | 2.8 |  |  | 71 | 1.6 |
|  | 94-96 | 3.9 |  |  | 82 | 2.7 |  |  | 70 | 1.5 |
| A- | 93 | 3.8 |  |  | 81 | 2.6 |  | D+ | 69 | 1.4 |
|  | 92 | 3.7 |  |  | 80 | 2.5 |  |  | 68 | 1.3 |
|  | 91 | 3.6 |  | C+ | 79 | 2.4 |  |  | 67 | 1.2 |
|  | 90 | 3.5 |  |  | 78 | 2.3 |  | D | 66 | 1.1 |
| B+ | 89 | 3.4 |  |  | 77 | 2.2 |  |  | 65 | 1.0 |
|  | 88 | 3.3 |  | C | 76 | 2.1 |  |  | 64 | 0.9 |
|  | 87 | 3.2 |  |  | 75 | 2.0 |  | D- | 63-62 | 0.8 |
| B | 86 | 3.1 |  |  | 74 | 1.9 |  |  | 61-60 | 0.7 |
|  | 85 | 3.0 |  | C- | 73 | 1.8 |  | E | 59-0 | 0.0 |
|  | 84 | 2.9 |  |  | 72 | 1.7 |  |  |  |  |

## ****Policies and Expectations****

* [**Academic Calendar**](http://www.washington.edu/students/reg/calendar.html) - Dates for course drop, withdrawal, and instruction.
* [**Plagiarism & Academic Honesty**](http://www.tacoma.uw.edu/node/38211) **-** A major part of your experience at UW Tacoma will be reading, synthesizing, and using the knowledge and ideas of others. To plagiarize is to use the ideas––or unique phrasing of those ideas––without acknowledging that they originate from someone or someplace other than you. Attributing where you get your information builds your own authority to speak on that topic and provides valuable backing to the arguments you make. Attribution also distinguishes your ideas and words from those of others who came before you. At the University of Washington, plagiarism is a violation of the student conduct code, and the consequences can be serious. Though citing, quoting, and paraphrasing can be confusing at first, it is essential for your success at UWT that you familiarize yourself with these important conventions of academic writing. Additionally, plagiarism can be understood differently in various disciplines. For instance, the ways in which one summarizes others’ ideas in texts, or attributes information from texts in one’s own paper, are not the same in the sciences as they are in the humanities, or the social sciences. This means it is vital that you understand the specific expectations and guidelines for writing that will help you avoid plagiarizing in this class. If you have questions about what amounts to plagiarism, you are strongly encouraged to seek guidance from faculty and the Teaching and Learning Center as soon as possible. This statement has been revised by Kelvin Keown and Asao Inoue and submitted to the UW Tacoma Faculty Assembly on 7-28-2014
* **Classroom Civility** - All classes and activities on the UWT campus are about learning, which often involves the exchange of ideas. However, the tone and intention behind that exchange are important.  Civility, politeness, reasonableness, and willingness to listen to others are expected at all times – even when passions run high. Behaviors must support learning, understanding, and scholarship.
* [**Campus Safety Information**](http://www.tacoma.uw.edu/campus-safety/home)
  + [Escort Service:](http://www.tacoma.uw.edu/node/38891) Safety escorts are available 24 hours a day, 7 days a week, there is no time limit. Call the main office line at 253-692-4416.
  + [In case of a fire alarm:](http://www.tacoma.uw.edu/node/39697) During an emergency evacuation, take your valuables ONLY if it is safe to do so. You could put yourself or someone else at risk by delaying your exit. Plan to return to class once the alarm has stopped. Do not return until you have received an all-clear from somebody "official," the web or email.
  + [In case of an earthquake:](http://www.tacoma.uw.edu/node/39696)DROP, COVER, and HOLD. Once the shaking stops, take your valuables and leave the building. Do not plan to return for the rest of the day. Do not return to the building until you have received an all-clear from somebody "official," the web or email.
  + [Campus Safety's "Are You Ready?" website](http://www.tacoma.uw.edu/node/38903)
  + [Emergency Response](http://www.tacoma.uw.edu/campus-safety/emergency-response)
  + [Sign-up for UW Alert: washington.edu/safety/alert/](http://www.washington.edu/safety/alert/)
* [**Safe Campus**](http://www.washington.edu/safecampus/uwt/)- Preventing violence is a shared responsibility in which everyone at the UW plays apart. The SafeCampus website ([washington.edu/safecampus/uwt/](http://www.washington.edu/safecampus/uwt/)) provides information on counseling and safety resources, University policies, and violence reporting requirements help us maintain a safe personal, work and learning environment.
* [**Inclement Weather**](http://www.tacoma.uw.edu/campus-safety/what-do-when-weather-turns-bad)- Always check the UWT Home Page: official campus closures or delays will be announced there first. Course Announcements and Email regarding assignments and expectations during a closure will follow once the severity of the situation is known.
  + "Call 253-383-INFO or check the UW Tacoma homepage to determine whether campus operations have been suspended or delayed. If not, but driving conditions remain problematic, call the professor's office number. This number should provide information on whether a particular class will be held or not, and/or the status of pending assignments. If the first two numbers have been contacted and the student is still unable to determine whether a class(es) will be held, or the student has a part-time instructor who does not have an office phone or contact number, call the program office number for updated information."
* [**Email Policy**](http://www.tacoma.uw.edu/information-technology/uw-tacoma-email-policy) - "UW Tacoma employees and students are issued a University of Washington NetID and email account. University email communications will only be sent to their University of Washington email address. Faculty and staff are not obligated to respond to students using non-UW email accounts.Those who choose to forward their emails to a non-UW email address do so at their own risk**.** The University is not responsible for any difficulties that may occur in the proper or timely transmission or access of email forwarded to any email address, and any such problems will not absolve employees and students of their responsibility to know and comply with the content of electronic university communications sent to UW email addresses." For the complete Policy Statement, follow the link in the heading title.
* **Electronic Devices -** Electronic devices (including, but not limited to, cell phones, tablets and laptops) may only be used in the classroom with the permission of the instructor. Activities that are not relevant to the course, such as checking/ sending email, playing games and surfing the web, are considered disruptive activities when class is in session. Check with your school/program about their electronic devices policy, or to see if it's at the discretion of the instructor.
* [**Infants/Children in Class Policy**](http://www.tacoma.uw.edu/faculty-assembly/actions-legistlation-memos-policies-resolutions) - Mothers who are breastfeeding an infant, or expressing milk, may do so in class without the permission of the instructor. Or if you prefer to breastfeed or breast-pump outside of class, you may take time out of class to use a lactation room (GWP 410 [& MAT 204A, pending keycode update. When available, annoucement will be made to campus]). However, in either case, it is a good idea to communicate with the instructor ahead of time. If you want to bring an older infant or child(ren) to class, you must get permission from the instructor ahead of time. If permission is granted, you are responsible for seeing that the child or children are not disruptive to the class and for ensuring that all additional University policies and rules are followed by those that you bring. There are some classes where it may not be safe for an infant, child or children to be present, and in those cases an instructor may restrict an infant, child or children from being present in class. - Approved by the Executive Council on 2/17/17
* [**Technology Requirements for Online Learning**](http://www.tacoma.uw.edu/online-learners/successful-online-learner) - “How to be a successful digital learner: To do well, your technology should be reliable and fast. Your hardware should be up-to-date. Your machine should be protected from viruses. You should use secure passwords and know the site and sender when being asked to download a file. These are your responsibilities, as your online instructor won't be able to help you with your own, unique technology problems.” For more information, follow the linked title.
* [**Incomplete**](http://www.washington.edu/students/gencat/front/Grading_Sys.html#I) - An Incomplete is given only when the student has been in attendance and has done satisfactory work until within two weeks of the end of the quarter and has furnished proof satisfactory to the instructor that the work cannot be completed because of illness or other circumstances beyond the student's control. A written statement of the reason for the giving of the Incomplete, listing the work which the student will need to do to remove it, must be filed by the instructor with the head of the department or the dean of the college in which the course is given.

## ****Getting Help****

### Academic Support

Numerous campus resources are available to support your academic success. Know your options and seek help and resources when needed.

* [**Disability Resources for Students (Office of Student Success)**](http://www.tacoma.uw.edu/drsuwt)- The University of Washington Tacoma is committed to making physical facilities and instructional programs accessible to students with disabilities. Disability Resources for Students (DRS), located in MAT 354, functions as the focal point for coordination of services for students with disabilities. If you have a physical, emotional, or mental disability that "substantially limits one or more major life activities [including walking, seeing, hearing, speaking, breathing, learning and working]," and will require accommodation in this class, please contact DRS at 253-692-4508, or email at [drsuwt@uw.edu](mailto:drsuwt@uw.edu) for assistance.
* [**Library**](http://www.tacoma.uw.edu/library/library) - The UW Tacoma Library provides resources and services to support finding resources for your assignments. We guide students through the research process, helping you learn how to develop effective strategies and find and evaluate appropriate resources. In addition to research and instructional support, we manage course reserves and print and digital collections and provide spaces for group and individual study. For assistance or more information, visit our service desks, located in SNO and TLB, or our website, [tacoma.uw.edu/library/library.](http://www.tacoma.uw.edu/library/library)
  + [**Research Support**](http://www.tacoma.uw.edu/node/21865)- Get assistance starting a research project.
  + [**Subject Librarians**](http://www.tacoma.uw.edu/library/subject-librarians) - Make an appointment with a subject librarian to talk about library resources, research strategies, focusing a topic, evaluating information and more.
* [**Teaching and Learning Center**](http://www.tacoma.uw.edu/teaching-learning-center/teaching-learning-center)- The Teaching and Learning Center offers free academic support for students at all levels. We offer one-on-one consultations and group workshops in writing, math, statistics, science, and Spanish. We also work with students on questions about English grammar & vocabulary, reading, and learning strategies. We are located on the 2nd floor of the Snoqualmie building (Snoqualmie 260) and online. Our schedules for appointments and drop-in visits are posted on our website at [tacoma.uw.edu/tlc](http://www.tacoma.uw.edu/tlc). For special needs or subject tutoring requests, please email [uwtteach@uw.edu](mailto:uwtteach@uw.edu) or call 253-692-4417. Our services summarized:

·         [**Writing & Spanish support**](http://www.tacoma.uw.edu/teaching-and-learning-center/writing-resources)**:** writing consultations, online tutoring, workshops & support

·         [**Quantitative skills support**](http://www.tacoma.uw.edu/teaching-and-learning-center/quantitative-tutoring): peer tutoring available for math, science, statistics and more...

·        [**ESL Support**](http://www.tacoma.uw.edu/teaching-and-learning-center/language-help)- Help for students whose first language is not English

* [**Technology Support**](http://www.tacoma.uw.edu/information-technology/information-technology) - Labs, software, equipment checkout and help with Canvas, Google, email, logins, etc.
* [**Online Support for Your Course Work**](http://www.tacoma.uw.edu/online-learners/online-support-students) **-** "Succeeding in an online course means being organized, self-reliant and aware of UW Tacoma's online support services. We're here to help you succeed, but it's up to you to "come to class" often, know the electronic resources available, and stay on course!"

### Self and Family Support

Everyone needs a little help sometimes. Here are a few campus resources on campus to help you get through those challenging times.

* [**Bias Incident Reporting Website -**](http://www.tacoma.uw.edu/reportbias) A resource for anyone who needs to report an incident of bias or wants to explore and better understand issues like bias and discrimination, and how to effectively respond.
* [**Center for Equity & Inclusion**](http://www.tacoma.uw.edu/equity/home) (WCG 104) - Resources and support for students regarding diversity, equity, inclusion and social justice issues.
* [**Student Success Mentoring Program**](http://www.tacoma.uw.edu/equity/student-success-mentoring-program-ssmp) - Connect with a faculty or staff mentor.
* [**Military-Connected Student Statement**](http://www.tacoma.uw.edu/veterans-military/veteran-military-resource-center) - If you are a student who is a veteran, on active duty, in the reserves or national guard, or a military spouse or dependent, then stay in contact with your instructor if any aspect of your present or prior service or family situation makes it difficult for you to fulfill the requirements of a course or creates disruption in your academic progress.  It is important to make your instructor aware of any complication, then he/she will work with you and, if needed, put you in contact with university staff who are trained to assist you. Campus resource for veterans, service members, and families are located in the Veteran and Military Resource Center, TLB 307A.  The VMRC can be reached at [uwtva@uw.ed](mailto:uwtva@uw.ed), 253-692-4923
* [**Counseling Center (Office of Student Success)**](http://www.tacoma.uw.edu/studentaffairs/SHW/scc_about.cfm.html) - The Counseling Center offers short-term, problem-focused counseling to UW Tacoma students who may feel overwhelmed by the responsibilities of college, work, family, and relationships. Counselors are available to help students cope with stresses and personal issues that may interfere with their ability to perform in school. The service is provided confidentially and without additional charge to currently enrolled undergraduate and graduate students. To schedule an appointment, please call 253-692-4522, email [uwtshaw@uw.edu](mailto:uwtshaw@uw.edu), or stop by the Student Counseling Center (SCC), located in MAT 354. Additional information can also be found by visiting [www.tacoma.uw.edu/counseling](http://tacoma.uw.edu/counseling).
* [**UWT Student Health Center**](http://www.tacoma.uw.edu/studenthealth) - All UW Tacoma students who pay the [Services and Activities Fee](http://www.tacoma.uw.edu/node/41083) (SAF) now receive student health services at six Franciscan Prompt Care clinics: [Bonney Lake](https://www.chifranciscan.org/Doctors-And-Clinics/Urgent-Care/Franciscan-Prompt-Care-Bonney-Lake/), [Burien](https://www.chifranciscan.org/Doctors-And-Clinics/Urgent-Care/Franciscan-Prompt-Care-Burien/), [Gig Harbor](https://www.chifranciscan.org/Doctors-And-Clinics/Urgent-Care/Franciscan-Prompt-Care-Gig-Harbor/), [Lakewood](https://www.chifranciscan.org/Doctors-And-Clinics/Urgent-Care/Franciscan-Prompt-Care-on-Gravelly-Lake/), [Puyallup](https://www.chifranciscan.org/Doctors-And-Clinics/Urgent-Care/Franciscan-Prompt-Care-Canyon-Road/),[Tacoma](https://www.chifranciscan.org/Doctors-And-Clinics/Urgent-Care/Franciscan-Prompt-Care-at-St-Joseph/). The “distributive care model” provides students more ways to access health care through six CHI Franciscan Health prompt care facilities throughout the Puget Sound, as well as access to [Franciscan Virtual Urgent Care](https://franciscan.anytime.org/#/home), at no additional cost. The Franciscan Prompt Care clinic located across the street from St. Joseph Medical Center, just up the hill from campus, is designated as the UW Tacoma clinic where students will receive priority treatment. The former Student Health Services clinic located in Laborer’s Hall on Market Street has closed. These changes do no affect which students can utilize Student Health Services. All current SAF-paying UW Tacoma students have access to Student Health Services, even those who have health insurance.  **All appointments are now scheduled by calling 253.428.2200.**
* [**The Pantry**](http://www.tacoma.uw.edu/thepantry) - Providing supplemental, nutritional, and culturally relevant food as well as hygiene items to all UWT students and their families. Stop by during weekly drop-in hours (DOUGAN 104) Monday-Thursday, 9am-3pm or complete the online Food Request Form at [tacoma.uw.edu/thepantry](http://www.tacoma.uw.edu/thepantry).
  + The Pantry offers non-perishable food and hygiene items for UWT students.
    - Starting autumn quarter, fresh eggs and milks will be available.
  + **UWT Student ID is required.**
  + For additional resources and information and how to donate, visit our website or come into our office at WCG 102 and learn more.
  + Students are able utilize The Pantry once a week and are able to take up to **10 food items**. We also have hygiene items available that will not count toward the 10 food items.
* **[Shelter for Young Adults - near campus](http://www.communityyouthservices.org/piercecounty.shtml)**[:](http://www.communityyouthservices.org/piercecounty.shtml) Beacon Center - Shelter for young adults 18-24. Open daily 6:30pm – 6:30am. Doors close at 10 pm. Located at: Beacon Senior Center 415 South 13th Street Tacoma, WA. The shelter has 40 beds and serves young people ages 18-24. Please call 253-256-3087 for more information.<http://www.communityyouthservices.org/piercecounty.shtml>
* **Oasis center** - Oasis transforms the lives of queer youth by creating a safe place to learn, connect, and thrive. Oasis envisions a world in which queer youth are valued in the community as strong, creative leaders.Oasis is the only drop-in and support center dedicated to the needs of LGBTQ youth ages 14-24 in Pierce County. We are a youth-adult partnership in which youth and adults come together for shared teaching learning and action! **Office Phone: 253-671-2838**. Emergency Cell Phone: (253) 988-2108
* [**Short-Term Loans**](http://www.tacoma.uw.edu/node/20304)- The Office of Student Financial Aid has funds available for short-term loans to assist students with temporary cash flow problems. Funds are generally available within one to four working days, only to students who are currently attending the university (loans cannot be processed between quarters). Repayment is due by the next quarter, or whenever additional funds such as financial aid arrive on account, whichever comes first. There is no interest on the short-term loans but there is a service charge added to the repayment amount. Students may apply online through [MyUW](http://myuw.washington.edu/" \t "_blank) under "Personal Services." Paper application forms are also available in the Financial Aid Office, but the processing time is longer. [Learn more about short-term loans](https://www.washington.edu/financialaid/types-of-aid/loans/short-term-loans/)