



COURSE OUTLINE

1. **Course:** PHYS 371, Introduction to Energy - Winter 2021

Lecture 01:

| Instructor | Email | Phone | Office | Hours |
|----------------|---------------------|--------------|---------|--|
| Dr Jason Donev | jmdonev@ucalgary.ca | 403 210-6343 | SA 101A | Monday 11-12:00, Tuesday 10:00-11:00, Wednesday 12:00-13:30 |

The professor and TAs will be available by e-mail and on Zoom to discuss the material with students and answer questions. Regular Zoom meetings will be set up depending on the TA's schedule.

Online Delivery Details:

This course does not follow a scheduled meeting pattern.

This course has a registrar scheduled, synchronous final exam. The writing time is 2 hours + 50% buffer time.

Lectures will be video recorded and available on D2L. Students will be expected to participate in online discussion forums and will answer lecture comprehension questions and homework questions online.

Course Site:

D2L: PHYS 371 L01-(Winter 2021)-Introduction to Energy

Note: Students must use their U of C account for all course correspondence.

2. **Requisites:**

See section [3.5.C](#) in the Faculty of Science section of the online Calendar.

3. **Grading:**

The University policy on grading and related matters is described in [F.1](#) and [F.2](#) of the online University Calendar.

In determining the overall grade in the course the following weights will be used:

| Component(s) | Weighting % | Date |
|---------------------------------|-------------|---------------|
| Group Discussion | 10% | Ongoing |
| Lecture comprehension questions | 10% | Ongoing |
| Homework | 30% | Ongoing |
| Midterm 1 | 15% | February 12th |
| Midterm 2 | 15% | March 19th |
| Final | 20% | TBD |

Each piece of work (reports, assignments, quizzes, midterm exam(s) or final examination) submitted by the student will be assigned a grade. The student's grade for each component listed above will be combined with the indicated weights to produce an overall percentage for the course, which will be used to determine the course letter grade.

The conversion between a percentage grade and letter grade is as follows.

| | A+ | A | A- | B+ | B | B- | C+ | C | C- | D+ | D |
|---------------------------|------|------|------|-----|-----|------|------|-----|-----|------|------|
| Minimum % Required | 95 % | 90 % | 87 % | 84% | 81% | 78 % | 75 % | 72% | 69% | 66 % | 63 % |

This course will have a final exam that will be scheduled by the Registrar. [The Final Examination Schedule](#) will be published by the Registrar's Office approximately one month after the start of the term. The final exam for this course will be designed to be completed within 2 hours.

The final exam will be administered using an on-line platform. Per section [G.5](#) of the online Academic Calendar, timed final exams administered using an on-line platform, such as D2L, will be available on the platform. **Due to**

the scheduling of the final exams, the additional time will be added to **the end** of the registrar scheduled **synchronous** exam to support students. This way, your exam schedule accurately reflects the **start time** of the exam for any **synchronous** exams. E.g. If a **synchronous** exam is designed for 2 hours and the final exam is scheduled from 9-11am in your student centre, the additional time will be added to the **end** time of the **synchronous** exam. This means that if the exam has a 1 hour buffer time, a synchronous exam would start at 9 am and finish at 12pm. - **updated April 6, 2021**

4. **Missed Components Of Term Work:**

The university has suspended the requirement for students to provide evidence for absences. Please do not attend medical clinics for medical notes or Commissioners for Oaths for statutory declarations.

In the event that a student legitimately fails to submit any online assessment on time (e.g. due to illness etc...), please contact the course coordinator, or the course instructor if this course does not have a coordinator to arrange for a re-adjustment of a submission date. Absences not reported within 48 hours will not be accommodated. If an excused absence is approved, then the percentage weight of the legitimately missed assignment could also be pro-rated among the components of the course.

5. **Scheduled Out-of-Class Activities:**

There are no scheduled out of class activities for this course.

6. **Course Materials:**

We will provide on-line documents and videos about the material for this course to the students.

In order to successfully engage in their learning experiences at the University of Calgary, students taking online, remote and blended courses are required to have reliable access to the following technology:

- A computer with a supported operating system, as well as the latest security, and malware updates;
- A current and updated web browser;
- Webcam/Camera (built-in or external);
- Microphone and speaker (built-in or external), or headset with microphone;
- Current antivirus and/or firewall software enabled;
- Stable internet connection.

For more information please refer to the UofC [ELearning](#) online website.

7. **Examination Policy:**

Exams will be open book, open notes and calculators will be allowed. Communicating with other students will not be allowed.

Midterms: Students will have 24 hours within which to write each midterm. During that period of time the professor and TA will be available to answer questions by e-mail and Zoom.

Final Exam: Students final exam will have a two hour writing time plus a 1 hour buffer. This exam will be written synchronously at a time set by the Registrar.

Students should also read the Calendar, [Section G](#), on Examinations.

8. **Approved Mandatory And Optional Course Supplemental Fees:**

There are no mandatory or optional course supplemental fees for this course.

9. **Writing Across The Curriculum Statement:**

For all components of the course, in any written work, the quality of the student's writing (language, spelling, grammar, presentation etc.) can be a factor in the evaluation of the work. See also Section [E.2](#) of the University Calendar.

10. **Human Studies Statement:**

Students will not participate as subjects or researchers in human studies.

See also [Section E.5](#) of the University Calendar.

11. **Reappraisal Of Grades:**

A student wishing a reappraisal, should first attempt to review the graded work with the Course coordinator/instructor or department offering the course. Students with sufficient academic grounds may request

a reappraisal. Non-academic grounds are not relevant for grade reappraisals. Students should be aware that the grade being reappraised may be raised, lowered or remain the same. See [Section I.3](#) of the University Calendar.

- a. **Term Work:** The student should present their rationale as effectively and as fully as possible to the Course coordinator/instructor within **ten business days** of either being notified about the mark, or of the item's return to the class. If the student is not satisfied with the outcome, the student shall submit the Reappraisal of Graded Term work form to the department in which the course is offered within 2 business days of receiving the decision from the instructor. The Department will arrange for a reappraisal of the work within the next ten business days. The reappraisal will only be considered if the student provides a detailed rationale that outlines where and for what reason an error is suspected. See sections [I.1](#) and [I.2](#) of the University Calendar
- b. **Final Exam:** The student shall submit the request to Enrolment Services. See [Section I.3](#) of the University Calendar.

12. Other Important Information For Students:

- a. **Mental Health** The University of Calgary recognizes the pivotal role that student mental health plays in physical health, social connectedness and academic success, and aspires to create a caring and supportive campus community where individuals can freely talk about mental health and receive supports when needed. We encourage you to explore the mental health resources available throughout the university community, such as counselling, self-help resources, peer support or skills-building available through the SU Wellness Centre (Room 370, MacEwan Student Centre, [Mental Health Services Website](#)) and the Campus Mental Health Strategy website ([Mental Health](#)).
- b. **SU Wellness Services:** For more information, see www.ucalgary.ca/wellnesscentre or call [403-210-9355](tel:403-210-9355).
- c. **Sexual Violence:** The Sexual Violence Support Advocate, Carla Bertsch, can provide confidential support and information regarding sexual violence to all members of the university community. Carla can be reached by email (syva@ucalgary.ca) or phone at [403-220-2208](tel:403-220-2208). The complete University of Calgary policy on sexual violence can be viewed at (<https://www.ucalgary.ca/policies/files/policies/sexual-violence-policy.pdf>)
- d. **Misconduct:** Academic integrity is the foundation of the development and acquisition of knowledge and is based on values of honesty, trust, responsibility, and respect. We expect members of our community to act with integrity. Research integrity, ethics, and principles of conduct are key to academic integrity. Members of our campus community are required to abide by our institutional [Code of Conduct](#) and promote academic integrity in upholding the University of Calgary's reputation of excellence. Some examples of academic misconduct include but are not limited to: posting course material to online platforms or file sharing without the course instructor's consent; submitting or presenting work as if it were the student's own work; submitting or presenting work in one course which has also been submitted in another course without the instructor's permission; borrowing experimental values from others without the instructor's approval; falsification/fabrication of experimental values in a report. Please read the following to inform yourself more on academic integrity:

[Student Handbook on Academic Integrity](#)
[Student Academic Misconduct Policy](#) and [Procedure](#)
[Research Integrity Policy](#)

Additional information is available on the [Student Success Centre Academic Integrity page](#)

- e. **Academic Accommodation Policy:** Students needing an accommodation because of a disability or medical condition should contact Student Accessibility Services in accordance with the procedure for accommodations for students with disabilities available at [procedure-for-accommodations-for-students-with-disabilities.pdf](#).

Students needing an accommodation in relation to their coursework or to fulfill requirements for a graduate degree, based on a protected ground other than disability, should communicate this need, preferably in writing, to the Associate Head of the Department of Physics & Astronomy, Dr. David Feder by email phas.ahugrd@ucalgary.ca or phone [403-220-8127](tel:403-220-8127). Religious accommodation requests relating to class, test or exam scheduling or absences must be submitted no later than **14 days** prior to the date in question. See [Section E.4](#) of the University Calendar.

- f. **Freedom of Information and Privacy:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIPPA). Students should identify themselves on all written work by placing their name on the front page and their ID number on each subsequent page. For more information, see [Legal Services](#) website.
- g. **Student Union Information:** [VP Academic](#), Phone: [403-220-3911](tel:403-220-3911) Email: suvpaca@ucalgary.ca. SU Faculty

- h. **Surveys:** At the University of Calgary, feedback through the Universal Student Ratings of Instruction ([USRI](#)) survey and the Faculty of Science Teaching Feedback form provides valuable information to help with evaluating instruction, enhancing learning and teaching, and selecting courses. Your responses make a difference - please participate in these surveys.
- i. **Copyright of Course Materials:** All course materials (including those posted on the course D2L site, a course website, or used in any teaching activity such as (but not limited to) examinations, quizzes, assignments, laboratory manuals, lecture slides or lecture materials and other course notes) are protected by law. These materials are for the sole use of students registered in this course and must not be redistributed. Sharing these materials with anyone else would be a breach of the terms and conditions governing student access to D2L, as well as a violation of the copyright in these materials, and may be pursued as a case of student academic or [non-academic misconduct](#), in addition to any other remedies available at law.

1. January 11th - Modeling energy and matter
2. January 18th - Primary energy, end use, energy for society
3. January 25th - Heat, start of heat engines
4. February 1st - Finish heat engines
5. February 8th - Start fossil fuels, Midterm 1, (reading break Feb 15th.)
6. February 22nd - Continue Fossil fuels
7. March 1st - Environmental consequences and climate change
8. March 8th - Finish climate change, start nuclear power
9. March 15th - Finish nuclear Power and Midterm 2
10. March 22nd - Wind, Solar,
11. March 29th - Geothermal, Hydro,
12. April 5th - Wave, Tidal, start Electricity
13. April 12th - Finish Electricity

Course Learning Incomes

At the beginning of the course, students should be able to:

Convert numerical quantities from one set of units to another with given unit conversions (eg. 100 cm = 1 m, how many meters is 324 cm?)

Solve linear algebraic equations (e.g. If $3y+6=12$, what is the value of y ?)

Use a calculator to find the sin, cos and tan of an angle (e.g. Find $\cos 40^\circ$ with a calculator).

Read line, bar and pie charts

Discuss controversial topics such as climate change, fracking and poverty in a mature and respectful manner.

Online discussion

To do well in this course: read the assigned passages, watch the videos, and participate in the online class discussions, and do the weekly homework assignments. This is a large lecture course which will break into small group discussions; courteous behaviour and discussions of controversial topics is expected. Your mark in the online discussion will be based on your thoughtful contribution.

Homework

I've done my best to create problems that I believe you'll be able to solve, in a relatively timely fashion. If I am wrong, and experience has shown that I will be from time to time, it's easier fo

Course Outcomes:

- What energy is and how it is used
- The advantages and disadvantages of various sources of primary energy
- What electricity is and how it is produced & distributed
- How our energy use ties to our changing climate.
- Analyze how our quality of life depends on energy consumption
- Analyze, evaluate and discuss the consequences of energy choices

Electronically Approved - Apr 06 2021 16:55

Department Approval