

PHYS 178 Essay instructions

As part of the course assessment you are expected to complete a 2 page essay on an aspect of the Sun, this essay is worth 8% of your final grade. The essay writing process will be modelled along the lines of a research publication, and you are expected to go into reasonable depth in your chosen topic.

Week 8	Choose topic, discuss it with friends and begin your own research. Sketch out the essay, start writing early draft.
Week 9	During tutorial discuss your essay with your classmates and the tutor and get some feedback and ideas. Bring a question or discussion topic along to the tutorial. By end of week have an advanced draft of your essay.
Week 10	Critical review – During tutorials you will be taking the role of an editor and reviewer. Bring along your draft essay, this will be given to another classmate to review and comment, along with particular criteria to evaluate against. Your reviewed essay will be returned to you at the end of the tutorial. Take into account the comments and suggestions and produce a final version to hand in.
Thr 29 th Oct	Hand in the commented draft (will not be marked) and the final essay.

Please be aware of the university rules on plagiarism (<http://www.student.mq.edu.au/plagiarism/>), and cite all your sources and take care to quote material carefully. Note that Wikipedia is not an authoritative source. It is ok to use Wikipedia to gain ideas or to find material, but always go to scholarly work for your actual information.

Potential topics:

Below are potential topics for your essay. This list is only suggestive, you are not limited to these topics and can also take combination of topics. Try to choose something different from your peers as this will help you to distinguish your work from that of others.

- Composition of Sun – the chemical elements involved, their origins, how do they affect aspects of the Sun's behaviour.
- Anatomy of Sun – different layers and the role of each.
- The temperature profile - why is it the way it is.
- The core
- Radiative zone
- Convective zone
- Photosphere
- Chromosphere
- The corona
- Granulation on the surface of the Sun.
- Quantum mechanical effects in sun – spectra, what are they and what do they show.
- Quantum tunneling and fusion in the Sun – why is it important?
- Coronal loops and prominences.
- X-rays from the Sun, what does this tell us?
- Journey of light from the Sun to Earth.
- Sunspots, what are they, what do they mean?
- Rotation of the Sun and how does this affect its magnetic field?
- Why does the Sun shine?
- The p-p cycle.
- The solar neutrino problem
- Solar cycles.
- Sun magnetism – how does this affect how the Sun behaves?
- Plages – what are they, what do they mean?
- Solar flares
- Coronal mass ejections
- Solar wind – causes and implications
- Auroras (how are they caused by Sun?)
- How does solar activity affect Earth's climate?
- Solar quakes.