Ideas that have their origin in what we call the “scientific revolution” have radically altered the ways in which we view every aspect of our existence, from the ways we look at the world we live in and the other organisms that inhabit this planet, to how we view ourselves and our place in the cosmos. Indeed, the new tools and perspectives of scientific enquiry have forced us to almost constantly have to reassess what it means to be human. Such is the power that science has given us, not only over the external natural world, but over ourselves, it is unsurprising that many people feel a deep sense of ambivalence about science, its achievements, and its practitioners.

From applying science and technology to nature, to splitting the atom, from decoding the human genome to creating designer babies, there is a lot that merits our considered attention. In this course we shall not only consider the ambivalent reception of science, technology and their impact upon society, but will also think deeply about the philosophical and often political assumptions that have shaped the means and methods of scientific discovery.
Assessment

READ THIS!!
Note: All written work be submitted to www.turnitin.com. You must ALSO submit a hard copy AS WELL in the first class period that follows the due date. Work that is not received in both formats will be deemed not submitted. You should – as with all your work – ensure you keep a copy yourself.

Deadlines:
You must submit your essays to www.turnitin.com by midnight of the due date. These deadlines are non-negotiable, and www.turnitin.com will not accept late submissions. Late assignments will be graded F: 0%.

➢ Take-Home Reading Write-Ups: (5x5%) = 25%
You should complete at least five of these. The aim of these short writing assignments is twofold. First, they aim to test your understanding of the readings, lectures and discussions for the week and to this end will ask questions that allow you to show that you have a grasp of the author’s intentions. You will also be asked to comment upon what you found interesting about the reading. Secondly, they are intended to help you to improve your academic writing. Thus all assignments should obey accepted academic standards (i.e.: be fully referenced, include a full bibliography, be well written and well structured).

Your paper should be no more than three, and no less, than two double spaced pages in length. Please use a legible font (I suggest Times New Roman), and all work should be submitted in 12 pitch. You will be asked to answer a number of set questions, you should aim to write one full and coherent paragraph on each, giving citations as relevant, to support the points you make.

These will be due on the first class of the following week. (Eg: writing assignment one will be due Tuesday February 3rd.)

Your best 5 will count towards your final total. Please note, there is no opportunity for late or retrospective submissions.

➢ In class quizzes: (dates to be announced) (3x5%) = 15%
In these 3 in-class quizzes you will be asked to write short but well-written responses to a few questions designed to test your knowledge of recent readings and lecture material.

➢ Essays: (3x20%) = 60%
You will write three 5 page essays (double-spaced, 12pt pitch). You will be given a list of specific questions from which to choose one. In writing your essay you will be expected to show a thorough and detailed knowledge of the relevant readings, lectures, and discussion from this course. Please refer to the grading standards sheet at the back of the syllabus and consult with your instructor for further information.

Due dates:

Note: There is NO final exam for this class.

➢ Extra Credit: up to 6%
Extra Credit can be gained in this class by attending the Department of the History of Science Colloquium series. There are eight meetings this semester on various aspects of Darwinism. (2009 is the 150th anniversary of the publication of the Origin of Species, and the 200th anniversary of Darwin’s birth.) A two page write-up of the speaker’s main thesis, and your opinion of it, will give you up to an additional 2% - up to a maximum of an extra 6%. More information to follow!!
CLASS SCHEDULE

Please Note: All readings should be completed before the week’s classes.

Unit One: Science, Technology and Society

Week One:
Tuesday 20th January: What is science? What is the history of science and why is it important?

Some questions to think about:
(i) What is “scientific knowledge?”
(ii) How does “scientific knowledge” differ from other forms of cultural knowledge?
(iii) Is scientific knowledge true?
(iv) Is scientific knowledge objective?
(v) What does it mean to say that science has a history?

Thursday 22nd January: Science, Technology and Ambivalence.
Reading:

Week Two:
Tuesday 27th January: Francis Bacon: The Man and the Method.
Reading:

Thursday 29th January: Science and Gender.
Reading:

*Writing Assignment 1: (compulsory)
(i) What do you think were Bacon’s intentions in writing this document?
(ii) What are the “idols” that Bacon discusses?
(iii) Describe briefly the main aspects of Bacon’s conception of Induction.
(iv) Describe Merchant’s criticisms of Baconian science.
(v) Comment on what you found most interesting or important about these readings.

Week Three:
Tuesday 3rd February: Newton’s Science and his Philosophy of Science.
Reading:
Isaac Newton, extracts from The Principia.

Thursday 5th February: Isaac Newton: The Man and the Myth
Reading:
*Writing Assignment 2:*
(i) What does Newton say about how good science should be performed?
(ii) Describe Newton’s “mechanistic” account of nature?
(iii) How does Fara’s paper alter our perception of Newton, and of science?
(iv) How does Newton’s account of what it means to do good science differ from Bacon’s?
(v) Comment on what you found most interesting or important about this reading.

**Week Four:**
**Tuesday 10th February:** Science, Technology, and the Politics of Industry: The discovery of scarcity and its solution.
Reading:

**Thursday 12th February:** The Science of Technology in the Workplace: “Fordism” and “Taylorism”
Reading:

*Writing Assignment 3:*
(i) Briefly summarise Malthus’ argument.
(ii) How does the discovery of scarcity in nature, in Malthus’ work, reflect his contemporary society?
(iii) How does Smith’s theory of the division of labour alter Malthus’ perception of man’s place in the world?
(iv) What is the main point that Kranzberg makes in his article?
(v) What is “Fordism?” What is “Taylorism?”
(vi) Comment on what you found most interesting or important about this reading.

**Week Five:**
**Tuesday 17th February:** “Do Artifacts Have Politics?” *(first essay set today)*
Reading:

**Thursday 20th February:** No class today – Dr. Hale is away.

**Week Six:**
**Tuesday 24th February:** From the Manhattan Project to the Genome Project: Big Science, Ethics and Living with the Split Atom
Reading:

*Writing Assignment 9:
(i) Certainly some technological “artefacts” are used by people towards certain political ends, but how does Winner make the case that some technologies, like nuclear power, are “inherently” political?
(ii) Who was it that Oppenheimer says led the way in the development of the atomic bomb?
(iii) To what extent do you think that the use of Atomic weapons in WWII altered the public perception of science?
(iv) What did Einstein and others see as the political legacy of the development of atomic weapons?
(v) According to Rhodes, what does Michael Polanyi say about the nature of scientific practice in this period?
(vi) Comment on what you found most interesting or important about this reading.

Unit Two: Biology and Society

Thursday 26th February: Biology, Technology, and Our “Post-Human” Future *(first essay due)*
Reading:
Troy Duster, Backdoor to Eugenics, New York & London: Routledge, 2003), xi-xiv

Some questions to think about:
(i): What does Kass mean by “post-human”?
(ii): What does Duster mean by the “back-door” to eugenics?

*Week Seven:
Tuesday 3rd March: Natural Theology and the “argument from design”
Reading:
William Paley, Natural Theology, (1802), excerpt.

Thursday 5th March: Geology: Time, Change and Extinctions. The History of Natural History.
Reading:

*Writing Assignment 4:
(i) What is Natural Theology?
(ii) Is it science?
(iii) What is “the argument from Design”?
(iv) Define the terms “uniformitarianism”, “catastrophism”, and “actualism”.
(v) What is the significance of “actualism” for scientific explanation?
(vi) Comment on what you found most interesting or important about these readings.
Week Eight:
Tuesday 10th March: William Whewell’s Philosophy of Science
Reading:
William Whewell, The Philosophy of the Inductive Sciences [1840], [extract].

Thursday 12th March: Charles Darwin and Evolution by Natural Selection *(second essay set today)*
Reading:
Charles Darwin, On the Origin of Species, [edited extracts].

*Writing Assignment 5:*
(i) Describe Whewell’s argument about how to undertake good scientific reasoning.
(ii) Whewell’s conception of induction is different to that of Newton, and Bacon regarding his attitude towards hypotheses. How?
(iii) What does Whewell mean by the “consilience of inductions?”
(iv) In your own words, briefly describe Darwin’s theory of Natural Selection
(v) Darwin was criticised for not being a good Baconian – However, he was aiming to be a good “Whewellian”, briefly explain the difference.
(v) Comment on what you found most interesting or important about these readings.

Week Nine:

Spring Break 🌸🌸🌸 March 14th – 22nd

Week Ten:
Tuesday 24th March: On the Origin of Species [continued]
Reading:
Charles Darwin, On the Origin of Species, [edited extracts].

Thursday 26th March: Religious Responses to the Origin *(second essay due)*
Reading:
Charles Darwin Correspondence with Asa Gray
Charles Darwin Autobiography [excerpt]
Charles Darwin. Variation of Animals and Plants. [excerpt]

*Writing Assignment 6:*
(i) Describe Darwin’s dilemma about apparent design in nature.
(ii) What role does Darwin ascribe to “chance” in his description of natural selection?
(iii) Asa Gray enthusiastically accepted Darwin’s theory of evolution by natural selection. How was he able to reconcile evolutionism with his religious beliefs?
(iv) What do you see as the significant differences between the ways in which Gray and Kingsley reconciled their religious views with evolutionary science?
(v) Comment on what you found most interesting about these readings.
**Week Eleven:**
**Tuesday 31st March:** Scientific Responses to the Origin
**Reading:**

**Thursday 2nd April:** The Origins of Life: Louis Pasteur, Felix Pouchet: Spontaneous Generation and the germ theory of disease.
**Reading:**

*Writing Assignment 7:*
(i) What is Fleeming Jenkin’s main objection to Darwin’s theory of evolution by Natural Selection?
(ii) How did Darwin counter this objection?
(iii) What is the main point that Waller hopes to make in his article?
(iv) How did Louis Pasteur's experiments in favour of the germ theory of disease rule out the prevailing belief in the "spontaneous generation" of life?
(v) What did you find interesting or important about these author's works?

**Week Twelve:**
**Tuesday 7th April:** Jacques Loeb’s “Mechanistic Conception of Life”.
**Reading:**

**Thursday 9th April:** Genetics and Eugenics.
**Reading:**
Harry H. Laughlin. “Eugenical Sterilization in America”, (1926)
Oliver Wendell Holmes, Jr. Buck v. Bell (1927)

*Writing Assignment 8:*
(i) What is Loeb's main argument in this week's reading?
(ii) What is the place of ethics in Loeb's mechanistic conception of life?
(iii) Why do you think Laughlin is writing this essay?
(iv) What two existing practices did Laughlin liken eugenic sterilisation to in his argument that it was not a cruel and unusual punishment?
(iii) In Buck v Bell, what did Oliver Wendell Holmes give as his main justification for endorsing enforced sterilisation?
(vi) Comment on what you found most interesting or important about these reading.

**Week Thirteen:**
**Tuesday 14th April:** Evolution and Ethics
**Reading:**
Thomas Henry Huxley, “Prologomena” to Evolution and Ethics [1894]
Thursday 16th April: Eugenics Old and New.
Reading:

*Writing Assignment 9:
(i) What is Huxley’s main argument in “Evolution and Ethics”
(ii) What does Huxley have to say about eugenics?
(iii) What is Mark Largent’s main argument?
(iv) What is Dorothy Nelkin’s main argument?
(v) Comment on what you found most interesting or important about these reading.

Unit Three: Science, Technology and Environment

Week Fourteen:
Tuesday 21st April:
Reading:

Thursday 23rd April: Dr. Hale will be away today, No class.
Reading:

Week Fifteen:
Tuesday 28th April: Silent Spring and the President’s Advisory Committee on Pesticides, 1963.
Reading:
Rachel Carson, Silent Spring. 1962.[extracts]
“Silence, Miss Carson” Review of Silent Spring by Dr. William J. Darby.
“The Impending Emergence of Ecological Thought”, Review of Silent Spring by LaMont C. Cole, Ecological Society of America.

Thursday 30th April: The Origins of Our Environmental Crisis
Reading:

*Writing Assignment 10:
(i) What is Rachel Carson’s main argument in Silent Spring?
(ii) Do you think that her book is a scientifically important work?
(iii) What were the main issues raised about Carson’s work by Darby and Chemical Week?
(iv) What were the main issues raised about Carson’s work by Baldwin and Cole?
(v) What does White say are the origins of our environmental crisis?
(v) Comment on what you found most interesting or important about these readings.
Week Sixteen:
Tuesday 5th May: Environmentalism and the (re) discovery of scarcity. *(third essay set today)*

Reading:
For Hardin’s article and further information see the Garrett Hardin Society website at:
http://www.garretthardinsociety.org
For articles in a special edition of *Science* in 2003 commemorating Hardin’s ground-breaking work see:
http://www.sciencemag.org/sciext/sotp/


Thursday 7th May: Thinking about science and politics in the classroom in the 21st century:
The Kitzmiller case.

*Writing Assignment 11:*
(i) What does Hardin argue is a necessity if our common pool resources are to be protected?
(ii) What assumptions does Hardin make about human nature?
(iii) According to the Kitzmiller ruling what is the nature of scientific knowledge?
(iv) What led Judge Jones to rule that the theory of “Intelligent Design” was not a scientific hypothesis?
(v) Comment on what you found most interesting or important about these readings.

Thursday 14th May: *(Final Essay due)*.
Please submit to turnitin.com and deliver a hard copy to PHSC Rm. 625 before 4:30pm.
Course Formalities and Expectations

Attendance and Participation:
Attendance in class is mandatory. If you have good cause to miss class, it is imperative that you discuss this with your instructor BEFOREHAND. **Note:** Any student deemed to have inadequate attendance may receive a failing grade irrespective of any written work submitted.

OU policies on reasonable accommodation, and codes of behaviour:

Reasonable Accommodation Policy
Any student in this course who has a documented disability that may prevent him or her from fully demonstrating his or her abilities should contact me personally as soon as possible so we can discuss accommodations necessary to ensure full participation and facilitate your educational opportunities.

Codes and Policies of Behaviour
Each student should acquaint his or her self with the University's codes, policies, and procedures involving academic misconduct, grievances, sexual and ethnic harassment, and discrimination based on physical handicap.

Academic Integrity and Plagiarism:
Plagiarism is the unacknowledged appropriation of someone else’s words, ideas, or work, which is then represented as your own. It will not be tolerated and carries significant and serious penalties. At a minimum you will receive 0% for the assignment, and your name put on record. It is possible that you might receive 0% for the course, and in extreme cases may be expelled from the University. You are therefore strongly recommended to educate yourself regarding what plagiarism is and how to avoid it. Your instructor and/or teaching assistants will be happy to advise you on this matter if you are in any doubt.

**NB:** Be aware that ignorance of what constitutes plagiarism will not be accepted as an excuse for it. If at any time you are unsure of how to cite material, your instructor or writing centre staff will be happy to advise you.
Tips on Effective Essay Writing

Since writing an effective essay is not a straightforward task, and improving your essay technique is one of the most important skills you will learn during any class, here are some initial suggestions:

First write some general notes on what you already know about the subject of your essay, outlining the most striking points (be careful to keep a record of the page numbers and full citation details of the sources you use – you will need them). Think why these points are so important, and what they entail for the particular methodological or ethical approach with which you are concerned. Then turn to the notes taken during class and to the set readings themselves, as well as any further background readings you may have identified through bibliographic surveys. Continually re-examine your list of striking features and the organisational structure you have imposed upon them, and think how these materials might help you to articulate your analysis more clearly. When you are ready, sketch an outline of your argument, and then write your first draft. Make sure that to the best of your knowledge there are no logical gaps in your argument. If you can identify some, go back to the literature to see if you can close them. This second look at the literature (and your reading notes) is important. Once you have constructed a hypothesis, you will be able to test it against the arguments of the various authors, and to find those who support your case, and those who are your opponents. (note: having your own hypothesis is the point at which the essay truly becomes your own contribution to the debate – having your own thesis is when you can expect to reach the higher grade levels in terms of assessment). You are then ready to proceed to the second phase.

Writing multiple drafts is a good way to produce a good essay, especially if you can gain some distance from early drafts, for example, by having someone else read them. (note: this is not something that can be done the evening before the essay is due). This is how professional academics work, and so you should try to do so too. You are encouraged to exchange your essays with one another and discuss your work with your colleagues as the course progresses. You should be aware that essays written the night before they are due invariably read like they were written the night before they were due, and as a result often appear ill-considered, disorganised, and incoherent. You should aim to manage your time to allow for at least two drafts and revisions. This will pay significant dividends in terms of the quality of your submitted work, and correspondingly, with the grade you can expect.

What makes a good essay

Introduction and argument: A good essay does not simply summarise the argument of the text(s) under examination. It also involves you constructing a coherent narrative about how those texts relate to a broader argument of your own. So, a good essay might start off with a short introduction to the particular element of the topic that you discuss. This might be followed with a similarly brief account of what you intend to say and how you intend to convince the reader of your argument, which brings us to the importance of clear organisation.

Argument and organisation: A good essay should not simply be a list of points about the subject under examination, all arranged in a haphazard manner. It should instead take the reader step by step through the argument so that they will end up seeing the logical progression of your narrative, even if they might not agree with your conclusions. This means that after a good introduction, each subsequent paragraph should introduce one particular idea about the episode and finish with a statement that prepares the reader for the
next paragraph and its particular idea. These paragraphs should be arranged in a logical sequence that takes the reader from the introduction to the conclusion, which means, of course, that the paragraphs should not contradict each other. A good organisation of these steps then depends critically on a very clear understanding of your essays’ aims and objectives. A clear understanding of your readers’ likely assumptions is equally important to avoid their misunderstanding any part of your argument. Think of it as a chess game, and so always try to put yourself in your readers’ shoes! Do not annoy them unnecessarily by forcing them to ask ‘where is this essay going?’

**Evidence:** A good essay should not only be a logical argument, but it should have the aim of convincing your reader of your point of view. To this end each point of the argument should be backed by evidence from the literature you have consulted, as is appropriate to the specific point being made. Importantly, direct quotes or paraphrases of the text or other literature should be carefully referenced, in footnotes and in a full bibliography of all works cited.

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**Preferred reference style**

**Article:** First name(s), Last name(s), “Title,” *Journal Title*, Volume, (Year), Page-Page, on p. XXXX or pp. XXXX-XXXX (if you are quoting or referring to specific passages).

**Book:** First name(s) and last name(s), *Title*, (Place of publication: Publisher, Year), Page (p. XXXX) or pages (pp. XXXX-XXXX).

**Essay in an edited collection:** First name and last name, “Title”, in First name(s) and last name(s) (ed. or eds.), *Title*, (Place of publication: Publisher, Year), Page-Page, on p. XXXX or pp. XXXX-XXXX (if you are quoting or referring to specific passages).

**Web site:** http://www. (Full site address): First name(s) and last name(s), “Title”, Date accessed.

Importantly, use these styles for the first reference the sources, and then use an abbreviated form, such as: Last name, ‘Title’, on p. XXXX or pp. XXXX-XXXX.

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Accurate referencing is not simply a matter of avoiding any accusation of plagiarism, but also of leaving open the possibility for your readers to explore the point you make in greater detail than is appropriate to the argument of your essay. It is perhaps needless to say, but you must always take care that your quotations or references support your point, and this may sometimes mean that you will have to explain how this is the case.

**Style:** A good essay should also be written well, attentive to syntax, grammar and spelling. This is not because your reader is pedantic, but because good syntax and grammar helps clarify your argument. For example, if you compare the passive statement ‘it was said that…’ with the active statement ‘so-and-so said that…’, in the second statement you are providing the reader with much more, possibly important information about ‘so-and-so’, and you will not beg questions about who exactly ‘said that…’. Also, when you write in one sentence that ‘so-and-so said’, and ‘so-and-so says’ in the next, your readers might
wonder about chronology and the order of causes and effects. Wanting good spelling may seem even more pedantic, but why risk aggravating your reader when you can use the spell-checker? Lastly, always have a good dictionary at hand, because different words for the same concept often convey different meanings, some of which may not fit well with the point you are making. (You should be aware however, that common dictionary definitions of terms may lack the nuances of how we might interpret these terms from a historical or analytical perspective (for instance a dictionary is unlikely to give adequate definitions of “science” or “technology” for example). You might also consult subject specific dictionaries (A Dictionary of Biology, for example). If you are in doubt about how an author is using a word, you should feel free to ask.

You are encouraged to review each other’s work in progress, and to provide comments to the author on the effectiveness of their argument. You should be aware that this is an important part of learning how to write, (and to be a generous member of an academic community) and remember that a thorough review of someone else’s essay probably benefits you more than the author, as you discover how others go about their task and thus what might be the limitations of your own compositions.

The writing and the peer review of your essays in such a painstaking fashion will enable you to further develop your research skills. You will improve the effectiveness of your handling of primary and of secondary materials and thus your understanding of the historical significance of the development of environmental thought. Moreover, you should find that the exercise helps you advance your ability to analyse material and express an argument in a persuasive and informed manner.

And finally, a note on:
References:
Do you have enough of them? Each significant point you make should have a reference – either to the source you have used as evidence to support your own argument, or to the source that shows where another author has made the point under discussion. As a rough guide: if you are not making three significant points in a page, you might want to. Thus three footnotes on a page would seem a fair estimate.

References should be accurate and adequate: You should provide the authors name, the title, the date and place of publication and the page number. See comments above for further explanation of referencing.

Wikipedia?:
While Wikipedia is often a good source of general information, it is not acknowledged to be a reliable or scholarly source of information. Wiki often gives you references – chase them up and do your own research!

Website research:
Online research is increasingly the first port of call for scholars; however, you should be aware that there is a lot available on line that is of a poor quality, and a lot that is certainly not reliable in terms of academic standards. Your subject librarians will be able to guide you in your search, and also give you guidance as to how to cite various online sources. In general you should cite the title of the document, its author, (assuming one is acknowledged), the full web address, and the date accessed. If you are submitting your assignment electronically, you might also insert your reference as a link. In general, though, if you are unsure as to the quality of the site you are looking at, cross-reference your information with a source you know to be reputable.
Department of the History of Science Spring 2009 Events Listing:
(Extra Credit opportunities)

22 Jan 2009:
“The Darwinian Revolution” Dreamcourse public lecture:
Professor Emeritus Ken Taylor (OU Department of the History of Science)
"Volcanology before Darwin: From burning mountains to igneous global dynamics"
SNOMNH Kerr Auditorium, Thursday 22\textsuperscript{nd} January 6:00 – 7:30pm

03 Feb 2009:
“The Darwinian Revolution” Dreamcourse public lecture:
Dr. Paul White (Darwin Correspondence Project, Cambridge University)
"Darwin’s Emotions"
SNOMNH Kerr Auditorium, Tuesday 3\textsuperscript{rd} February 6:00 – 7:30pm

12 Feb 2009:
“The Darwinian Revolution” Dreamcourse public lecture:
Dr. John M. Lynch (Barratt Honors College, Arizona State University)
"Was There a Darwinian Revolution?"
SNOMNH Thursday February 12\textsuperscript{th}. 7:00-8:30pm

26 Feb 2009:
“The Darwinian Revolution” Dreamcourse public lecture:
Professor Michael Ruse (Florida State University)
"Is Darwinism Past it’s "sell-by" date?"
SNOMNH Kerr Auditorium, Thursday February 26\textsuperscript{th}, 6:00-7:30pm

12 March 2009:
“The Darwinian Revolution” Dreamcourse public lecture:
Professor John Beatty (University of British Columbia)
“The Details left to Chance” Evolutionary Contingency and its Broader Implications in the work of Charles Darwin and Stephen Jay Gould"
SNOMNH Kerr Auditorium, Thursday March 12\textsuperscript{th} 6:00pm-7:00pm

09 April 2009:
“The Darwinian Revolution” Dreamcourse public lecture:
Dr. John van Wyhe (Cambridge University & Darwin Online Project)
"Darwin’s Secret? Was the theory of evolution really held back for twenty years?"
SNOMNH, Kerr Auditorium, Thursday March 9\textsuperscript{th} 6:00-7:30pm

16 April 2009:
“The Darwinian Revolution” Dreamcourse public lecture:
Professor Garland E. Allen (Washington University in St. Louis)
"Darwin, Marx and Wagner"
SNOMNH, Kerr Auditorium, Thursday April 16\textsuperscript{th}. 6:00-7:30pm

21 April 2009:
“The Darwinian Revolution” Dreamcourse public lecture:
Dr. Joe Cain (University College London)
"A Monkey’s Uncle: The 1925 Scopes Trial wasn’t what you think!"
SNOMNH Tuesday 21\textsuperscript{st} April. 6:00-7:30pm
GRADING PRACTICES AND STANDARDS

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90% to 100% (A)

“A” grade work is exceptional, showing strong evidence of original thinking and good organisation. The student will have shown a capacity to analyse and synthesize information, as well as a superior grasp of the subject matter in hand and an ability to make sound critical evaluations based upon an extensive knowledge base. Work of this standard should be well argued, well documented, and well written.

80% to 89% (B- to B+)

Work of this grade is competent, showing evidence of a reasonable-to-solid grasp of the subject matter. It should also show evidence of critical and analytical thinking. The work should also indicate a familiarity with the literature. It should be clearly written, accurate and coherent, including major points from the course material and an appreciation of their importance.

70% to 79% (C- to C+)

Work of this grade is of adequate performance, showing a fair understanding of the subject matter and an ability to develop solutions to simple problems in the material. It may include some errors and slight misconceptions, but should be indicative of a reasonable engagement with the course material. An acceptable although uninspired piece of work, it should not contain serious errors, but may lack style and vigour in its articulation.
**60% to 69% (D- to D+)**

Work of this grade is *adequate, but poor*. Poorly articulated and lacking in a coherent argument it may also lack sufficient documentation. Although it may provide some relevant information, it omits many important points and contains a number of substantial errors or misconceptions.

**00% to 59% (F) Inadequate.**

Work of this standard is *inadequate*, showing little or no understanding of the subject matter. Exhibiting little evidence of critical and analytic skills, this work contains only a limited or irrelevant use of the literature. Poorly articulated it is likely to lack coherence and be difficult to comprehend. Work of this grade is not of degree standard.