

STS250/251: From molecular genetics to biotechnology **Autumn session, 2005**

These notes, plus additional information, are posted at
<http://www.uow.edu.au/arts/sts/bmartin/classes/>

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Making contact. You sometimes can find me in my office, especially in the afternoons. You are welcome to contact me by phone (if you ring me at home, please do so after 8am and before 9pm), fax or email, to discuss any issue or make an appointment.

Subject description

This subject examines the development, impact and social context of molecular biology and genetic engineering. Topics may include: the development of a model for DNA; the development of recombinant DNA techniques; Asilomar and safety; corporate influence on molecular biology; ethical and political issues in genetic screening and genetic engineering; regulation of biotechnology and social control of research priorities; legal and moral issues in the patenting of life forms; the human genome project; the release of recombinant organisms; and biotechnology industry in Australia.

Subject objectives

On successful completion of this subject, students will have demonstrated, on the basis of written work, oral presentation and other contributions to tutorials, that they: recognise that, and can outline how, economic, political and social factors have influenced the direction of molecular biological research and determine the applications of biotechnology; can identify and illustrate issues and potential social and environmental consequences that may arise from biotechnology; can evaluate policies and means of controlling developments in molecular biology and genetic engineering; can critically analyse statements for and against the development and application of various applications of genetic engineering; and have developed their skills in finding and using arguments and information; in summarising and critically evaluating such material; and in writing and speaking.

Additional information The *Faculty of Arts Undergraduate Handbook 2005* is a supplement to these subject notes. See in particular material on staff consultation, student representation, assignments, assessment, Sub-Dean matters, and plagiarism. Students enrolled at Bega, Batemans Bay, Shoalhaven and Moss Vale should consult the BA (Community and Environment) Handbook for this information.

Plagiarism will not be tolerated. For more information, see
<http://www.uow.edu.au/handbook/courserules/plagiarism.html>.

See also Code of Practice—Teaching and Assessment,
http://www.uow.edu.au/handbook/codesofprac/teaching_code.html

You are not required to pass every component of assessment to pass the subject. I will grant extensions only when application for special consideration are made through SOLS. I reserve the right to hold an additional oral examination for any piece of assessment.

Classes

Wednesdays, 9.30-12.30, room 19.2100

Classes may include reports on items brought to class, discussions, debates, guest lectures, student oral activities, a field trip, snack breaks and other activities to be decided.

Week 2 class: find, read, and bring along an article from the media, a scientific journal or other source about AIDS (see participation, below). I will give a talk about the origin of AIDS.

Future class topics (order to be decided)

- designer babies
- stem cell research
- organ harvesting
- GM crops/food
- biowarfare: military and genetics
- media and genetics
- intellectual property and genetics

For each of these, we can examine ethical, social, historical, economic, political and other dimensions of the topics.

Theories

We will look at these topics through the perspectives of different social theories. Possibilities of theories include political economy, social construction of scientific knowledge, actor-network theory, participatory democracy, semiotics, feminism, consumerism, Islam and Christianity. Consult with me about other suitable theories.

Assessment

Component	STS250	STS251	credit points
Participation	15%	20%	1.2
Oral activity	15%	20%	1.2
Essay 1	18.75%	25%	1.5
Essay 2	26.25%	35%	2.1
Analysis	25%		2.0

Attendance

You are expected to attend at least 80% of scheduled classes. (Classes are omitted from the calculation when you provide certificates showing that absence was on medical or compassionate grounds.) If you are present for only part of a class, that counts as fractional attendance. For those with less than 80% attendance, a corresponding percentage will be subtracted from the overall mark. For example, with 72% attendance, $80\% - 72\% = 8\%$ will be subtracted from your final mark.

Group work

You are encouraged to work in groups on any of the assessment items. However, no more than 30% of your total assessment can be for collective submissions. For example, you can submit essay 1 as a group (up to three members). You might work in a team to prepare for essay 2 but submit separate essays. Discuss options with me.

Participation

On designated weeks, beginning with week 2, you should bring to class one or more relevant items from the media, scholarly journals, or other sources — articles, video or audio clips, emails, etc. — and be prepared to introduce them to others in the class in a few sentences.

Participation will be assessed using these criteria (roughly equally)

- relevance of the items to themes covered in the subject
- diversity and originality of items
- insight offered in introductions of items

Oral activity

You can either make a formal presentation to the class or design an activity to help others understand the topic in its social context. To deal with the “social context,” you should explicitly use a theory, as outlined above.

For the activity, you can use participatory techniques such as debates, quizzes, role plays and small group exercises.

Consider using overheads, handouts, tapes and videos. Try to relate your topic to the experiences of class members. You should also include some method to evaluate how well everyone has understood what you are trying to get across. Time allocated for each oral activity will be 20 minutes per person, e.g. 60 minutes for a three-person group.

Oral activities will be assessed using these criteria (roughly equally)

- knowledge of topic and theory
- speaking performance (presentation only)
- quantity and quality of audience involvement (activity only)
- aids (handouts, overheads, posters, videos, etc.)
- methods of evaluating how well class members have understood your message.

Essay 1

Pick one of the class topics, or another topic with my agreement. Write an opinion piece in the style of a feature article in the “Opinion” page in *The Australian* or the “Comment” page in the *Sydney Morning Herald*. You should use a theory to underpin or help motivate your comment. However, you don’t need to refer to the theory explicitly. Instead, use footnotes to cite references on the topic (at least 2) and on the theory (at least 2). (When submitting articles to newspapers, it can be useful to include references to establish your credibility. The newspaper won’t publish them, though.)

Length: no more than 1000 words.

Due date: 9.30am, Wednesday 6 April.

Where: In class. If you’re unable to attend, put the essay under the door to my office (19.2016) or in my mail box in room 19.1048. Alternatively, mail the essay to me by express post no later than 9.30 on the due date.

Resubmission Anyone whose essay does not receive a mark of 50 or more will have the option of resubmitting it, to bring the mark up to 50.

Essay 1 will be assessed using these criteria (roughly equally)

- understanding of the topic
- understanding of the theory and its application to the topic
- persuasiveness of your argument
- quality and appropriate style of writing

Essay 2

Pick one of the class topics, or another topic with my agreement. Write an information leaflet that might be used by an organisation that is advocating a position, for example a biotechnology corporation, an anti-GM group, a church or a government department (in Australia or elsewhere). You should use a theory to underpin or help motivate your comment. However, you don't need to refer to the theory explicitly. Instead, use footnotes to cite references on the topic (at least 3) and on the theory (at least 3).

Length: 1500 words.

Due date: 9.30am, Wednesday 25 May.

Where: In class. If you're unable to attend, put the essay under the door to my office (19.2016) or in my mail box in room 19.1048. Alternatively, mail the essay to me by express post no later than 9.30 on the due date.

Resubmission Anyone whose essay does not receive a mark of 50 or more will have the option of resubmitting it, to bring the mark up to 50.

Essay 2 will be assessed using these criteria (roughly equally)

- understanding of the topic
- understanding of the theory and its application to the topic
- persuasiveness of your argument
- quality and style of writing

Analysis (STS250 only)

Choose a substantial scholarly article, a major film or some other such cultural product published since 2004 dealing with genetics or biotechnology. Analyse it using two theories. Submit or make available a copy of the product along with your analysis.

Length: 1500 words.

Due date: noon Wednesday 15 June, either under my office door (room 19.2016), in my mail box (room 19.1048). Alternatively, mail the report to me by express post no later than noon 15 June.

Analyses will be assessed using these criteria (roughly equally)

- understanding of the cultural product
- understanding of the theories
- application of the theories in analysing the product
- argument (starting from clearly articulated premises; mobilising evidence and logic towards a conclusion; recognising assumptions made and limitations)
- quality of expression (organisation of material, clarity, grammar, spelling, etc.)

Alternatively, you may do an oral presentation no later than week 12, with the same assessment criteria as for the oral activity.