

Transgenic Organisms BIOL 3036, Winter term

Transgenics are created by inserting foreign genes into organisms by genetic engineering. This course will include: Recombinant DNA technologies, the history of transgenics, methods of production/selection (plant and animal) and human gene therapy. Problems, ethics and controversy (e.g. Frankenfood) associated with this technology will be discussed.

Professor : Dr. Bill Pohajdak, 5076 LSC, Billpoh@dal.ca, 494-1853

Lectures: MWF 12:30-1:30 in LSC

Evaluation:

Evaluation:

• Test/Quiz-1	20
• Test/Quiz-2	20
• Term Paper	20
• Final Exam	<u>40</u>
Total	100

Tests/Quiz:

Both will be in class. 50 minute duration

Both will have short definitions and paragraph answers (20 marks each).

There are no make-up exams for the midterms. For students who have a valid excuse (see Dalhousie Registrar Calender) for missing the midterm examinations the final will be increased in value.

Term Paper:

Each person will be given a “general” transgenic topic.

Examples: Fish, mice, pig etc

Out of that group pick a specific example (based on a **RESEARCH paper**-NOT a review paper) and

Explain: How it was made?
 Why it was made?
 Successes or problems?
 Public response (if any)-good/bad?

3 TYPED Pages, PLUS emailed copy!

Single spaced, 12 pt font, 1” border

Not including references – **MAX. 1 page of references**

Not including Title page. (Name, student #, Title)

Can include: pictures, diagrams etc. (within the 3 pages). JPEG picture files (not TIFF)

MUST email me a copy!!

Plagiarism: I will be using software to detect plagiarism

If you are not sure what plagiarism means please see:

<http://www.registrar.dal.ca/calendar/ug/UREG.htm#12>

The essay is NOT A GROUP PROJECT!

LECTURES:

- Lecture 1 History of Recombinant DNA**
- Lecture 2 DNA, MOLECULAR BIOLOGY REVIEW**
- Lecture 3 History of Transgenics**
- Lecture 4 Genetic Engineering in Plants**
- Lecture 5 BT TOXIN**
- Lecture 6 Herbicide resistance**
- Lecture 7 RNAi**
- Lecture 8 FLAVR tomato**
- Lecture 9 GOLDEN RICE**
- Lecture 10 Transgenic Flowers**
- Lecture 11 Virus-resistance**
- Lecture 12 TERMINATOR SEEDS**
- Lecture 13 Biopharming**
- Lecture 14 Transgenic Insects**
- Lecture 15-16 GMO FISH**
- Lecture 17-18 Transgenic Tilapia**
- Lecture 19-20 Transgenic Mice & KO**
- Lecture 21-22 Transgenic animals**
- Lecture 23-24 Cloning animals**
- Lecture 25-26 Gene therapy**

Lecture 27 Safety

Lecture 28 Regulation

Lecture 29 Labeling GMO

Lecture 30 Ethics

Dalhousie Common Grade Scale

A+ (90-100)	B+ (77-79)	C+ (65-69)	D (50-54)
A (85-89)	B (73-76)	C (60-64)	F (<50)
A- (80-84)	B- (70-72)	C- (55-59)	