**Biology 3224 Fall 2016**

**WRITING BIOLOGY**
A One Semester, online Course
Maximum Enrolment 40

Instructor: M.B. (Brock) Fenton; bfenton@uwo.ca

**Brief course description:** This course is intended for students who enjoy reading and writing and who seek to improve their writing skills. During the course, each student can complete up to 10 - 500 word long essays, and then must complete one 1000 word long essay at the end of the course. The principle behind this approach is that writing improves with practice. Students must also make spoken presentations about their essays to others in the class. This will provide many opportunities to receive and to give feedback about writing style and accuracy. Each essay will focus on a specific topic in biology, the actual choice being made by the student. Course material is delivered and received online and through a virtual classroom (Blackboard Collaborate - UE).

**Please note that:**

a) Students enrolled in this course must have access to (and use) a working webcam and microphone for each session they attend. Everyone must participate all of the tutorial session in which they are enrolled.

b) Make sure that your inbox has room to receive emails and attachments about the course.

c) Name your essay (and editing) files so that I can find them (your surname essay1.doc(x)). For essays you edit, author surname Essay x Joe Smith editor. Do not use “essay 1, 2, etc.” because this makes them too easy for me to lose.

**How I grade essays:** This course is not about “right” answers, it is about writing, speaking and listening effectively. This means that you should expect to lose marks for using the passive voice and for not making direct statements. Also expect to lose marks for using fill (junk or weasel) words (by definition words that add to the word count but not to the content). Also expect to lose marks for repetition. You also can lose marks for making incorrect statements (e.g., whales have gills or parental behaviour is altruistic). Also plan to lose marks for not following advice from editor(s).

**How I grade editing:** I go over your editing in the following order: a) first I read the overview you have provided of the essay you edited; b) then I look at the details of your editing – have you made useful suggestions to improve the clarity and accuracy of the writing?; c) did you catch tracts of passive voice and wasted words? Are your comments accurate and clear?

**How I grade participation:** In each tutorial, I note who has asked questions, whether about presentations of essays or about editing. I take note of questions about details clearly covered in the presentation. I keep count of questions and use this as a measure of participation.

**Feedback as the course progresses:** In addition to graded and marked up essays, at the end of each month I will write to each student about their “progress to date” in the course.
1. **Course Schedule**

12 Sept. Week 1 – assignment 1 … your favourite course to date; edited by MBF
19 Sept. Week 2 – assignment 2 … about a species edited and graded by MBF
26 Sept. Week 3 – assignment 3 … about an author edited and graded by MBF
  3 Oct. Week 4 – assignment 4 … about any topic in biology edited and graded by MBF
10 Oct. … no class meetings (Thanksgiving)
17 Oct. Week 5 – assignment 5 … about a species edited by selected classmates edited and graded by MBF
24 Oct. … no class meetings (fall study break 27, 28 Oct)
31 Oct. Week 6 – assignment 6 … about an author edited by selected classmates graded by MBF
  7 Nov. Week 7 - assignment 7 … about any topic in biology edited by selected classmates graded by MBF
14 Nov. Week 8 assignment 8 … free choice edited by selected classmates graded by MBF
21 Nov. Week 9 Students present the story line for their exit essays.
28 Nov. Week 10 – assignment 9 … free choice edited by selected classmates graded by MBF
5 Dec. Week 11 – **exit assignment due at noon on 5 Dec (2016)**. Here students are challenged to merge three of their previous essays into one, 1000 word long integrated presentation. As a P.S. to the essay address the “what I learned” and “what I should have learned” components of the course.
2. Alerts
   A. Essays and reviews must be submitted on time: see page 3
   B. Files must be named correctly: see page 1
   C. Scientific names must be correctly presented: see page 11
   D. Citations must be presented in the course format: see page 10
   E. Turnitin overlap must be 0%: see page 6
   F. Essay checklist: see page 8
   G. Costly mistakes: see page 11

3. Syllabus
   The purpose of this course is to provide students in-depth practice in writing and making brief oral presentations about specific topics in biology. During one semester, each student will write and submit three kinds of essays dealing with a range of topics in biology (see below here and in section 7). In tutorials, students will make weekly spoken presentations about each of their essays and participate in reviewing and editing the writing of other students enrolled in the course. This will provide experience in giving and receiving feedback about work. We will achieve these goals through direct and indirect discussion, and interactions with others in the course. For the exit assignment, students will build three of their essays into one 1000 word long essay.

   The specific focus will be writing general factual material about biology on topics that focus on species, people, and specific subjects. Write your essays for an audience of biology students. For essays 2 – 9 inclusive, students must base each essay on one or two articles published in scientific journals. Please note that students choose the specific biology content of the course. As you begin the course, remember that your exit essay must draw on three of your other essays.

   To increase contact among students and the instructor, we will use two types of scheduled weekly virtual classroom (Blackboard Collaborate) sessions. The first (11:30 h Monday) is a meeting of the entire class, the second is a meeting of the members of each tutorial group. As noted above, everyone must attend and participate in the tutorial session in which they are registered. In the context of this course “editing” means using Track Changes to provide detailed, specific suggestions about use of words and clarity of writing. These will be combined with comments in the margin.

4. The Essays
   You will write three kinds of essays in this course. Essay 1 (~500 words) will be edited but not graded. Essay 1 will give me an idea about your writing and you feedback from me. Essays 2-9 (~500 words each) will be graded and edited. They are intended to give you practise in writing and editing. The exit essay (1000 words) challenges you to produce a more integrated piece drawing together the essences of three of essays 2-9.

   In each essay, students should strive to use words to advantage, to write clearly and accurately without repetition. Every essay must be submitted to me (bfenton@uwo.ca) by noon on Thursday, and simultaneously uploaded to Turnitin. English is the language of instruction.
Essay 1. Please write 500 words about your favourite university course to date. The essay should explain your choice. What were the best parts of the course? What were the parts of the course that had the most room for improvement? This essay needs no citations or references. The purpose of this essay is to provide me with an indication of each student’s writing skills as well as a view of what course(s) you have particularly enjoyed. I will edit but not grade this essay.

Essays 2 – 9. In these 500 word long essays, students are expected to correctly present scientific names and citations for the works that form the basis for the essay. My grades for each essay will be based on the writing (the story line, the choices and uses of words) but only after marks have been deducted for not following directions (see below).

To streamline the process, each student has been assigned a volume of a journal. Pick appropriate papers from the volume of your journal whether you are writing about a species, an author or a topic. Use the following steps:

a) In the electronic library, go to the journal assigned to you.

b) Now go to the volume assigned to you.

c) Each volume will consist of several “numbers” (issues). Go through the table of contents of an issue until you find an appropriate paper (about a species, an author you find interesting or on a topic that interests you). This paper will be your primary source.

d) Read the paper. You can/may use the literature cited in the paper to find another paper on the same species (by the same author or on the same topic).

e) write out the story line (nutgraph – see below).

f) draft the essay.

g) Prepare a 2 minute (timed by stopwatch) presentation about your essay(s) to make to the class. Do not read your presentation.

No two students have been assigned the same volume of a journal.

Please use the supplemental material to advantage for presenting scientific names and citations.

5. Nine Tips About Writing Essays

One. Pick a story line.

How? Each 500 word essay must be based on at least one scientific paper. The paper you choose establishes your story line. Please remember that your essay tells a story. There has to be a title, a beginning, a middle and an end. To minimize interruption to the flow of the essay and to lower the Gunning Fog Index, please put sources for the essay and relevant scientific names at the bottom (see sample essay). Be sure that the information is accurate, complete, and correctly presented.

Two. Find material.

How? Go to the journal volume assigned to you, find an appropriate paper (about the species, the topic or written by the biologist). Use Google Scholar and the electronic library. Read the paper, pick a story line.

Three. Prepare your story line (aka a nut graph - see below)
Four. Then write.
   *Write clearly.
   *Choose your words with care. Say what you mean, mean what you say.
   *Use the active voice (see below). Make direct statements.
   *Avoid repetition.
   *Focus on your story line (hence the restriction to writing each essay about one or two scientific papers).
   *do not use abbreviations or acronyms.
   *do not try to edit as you write … keep the two exercises separate.

Five. Then let the first draft sit for a day.

Six. Now go back and read the whole draft aloud to yourself. Be sure to speak each word. As you read, check your spelling and grammar. This is a good opportunity to get a classmate to read and comment on your draft and you to reciprocate by doing the same for them. Please note that in this course reading over and commenting on an essay written by a classmate is not plagiarism.

Seven. Assess the clarity of your writing by determining the Gunning Fog Index (GFI) of what you have written. Get your GFI calculated at http://gunning-fog-index.com/. To some people an "ideal" GFI is 7 or 8, and anything > 12 is considered very hard to read. Plays by William Shakespeare, books by Mark Twain, and The Bible have GFIs of 6. The sample essay has a Gunning Fog Index of >10 --- I should have done better than that. Try to make your GFI < 10. **You must provide a GFI for each of your essays.**

You will see that using short sentences and "simple" words is the way to a low GFI. If you have time, experiment with your writing. You can read more about the GFI at http://www.readabilityformulas.com/gunning-fog-readability-formula.php. At this site there is an option to calculate the GFI for something you have written (copy, paste and click). To appreciate the GFI, use the sample essay. What is the GFI? How could it have been reduced?).

Eight. Prepare supplemental material.

Nine. Now submit the essay to me. Then upload it to Turnitin -- do follow the directions about format and submission. Only upload the body of your essay to Turnitin (not the supplementary materials.

**6. Use feedback to advantage.** Please take the time to review the edits on your essays, whether they are from me or from a class mate. To make it obvious to me that you have done so and used the comments to advantage. Do this by inserting a paragraph into the beginning of your next essay outlining how you benefitting from the feedback. No this does not count in the essay word count.

**7. Four Important Learning Tools:**
   a) The GFI (Gunning Fog Index) provides you with objective, quantitative feedback
about the clarity of your writing. Use it to advantage. **Our goal in this course is GFI <10.**

b) Turnitin provides an objective, quantitative assessment of overlap between your essay and other sources. **Our standard in this course is a Turnitin overlap of 0%. I will deduct 2 marks per percent over 0%. In other words, an overlap of 1% results in a deduction of 2% of your final grade. An overlap of 5% costs 10 marks, etc.**

c) A story line or Nut Graph is a 25 word summary of the main point of your essay. Written in sentences (not in point form), the nut graph can help you focus on the main point(s) of your writing.

d) copy your draft essay and paste it into Google Translate …. To have “google” read it to you. This is an excellent way to check for clarity and word choice.

8. Spoken Presentations
You must present an overview of your essay in 2 minutes (timed by stopwatch). Use the full time. Be prepared to lose marks if you are too short or if you run over. Practice your presentation. You will make one about each of essays 1 through 8. Be sure to ask other students at least one question about their essay presentation. In each tutorial we will try to generate discussion about the essays we hear about.

Please do not read your presentation = do not read your presentation.

The other side of this coin listen carefully to the presentations of others. This means that you have heard what was said … and should be able to ask good questions (as opposed to asking something directly covered in the presentation).

9. Grades for Participation
I will keep track of the questions asked by each student in tutorial and use this information to calculate grades for participation. The purpose of this approach is to generate discussion about the biology presented in students’ essays.

10. Learning Outcomes
   Learning outcome 1: Writing-practice writing ... content, clarity, style, organization
   Learning outcome 2: Editing-how to make useful comments and benefit from the comments of others.
   Learning outcome 3: Your role as reviewer-is the information correct?
   Learning outcome 4: Practise making clear, succinct spoken presentations.

Specific writing assignments will expand the student’s factual knowledge about biology, broadly defined. But factual knowledge is not as important as learning about writing, including giving and receiving assessments of work. Combining three assignments into one longer essay will further expand the writing experience associated with the course. Remember, however that getting the facts “right” is important, make sure you know enough biology to make smart decisions about the content of your essay. For example, whales do not have gills, they have
lungs. Parental behaviour is genetically selfish, it is not altruistic.

11. Logistics
We will use Blackboard Elluminate, a virtual classroom, for meetings and discussion. All of these sessions will be archived, allowing students to review previous sessions.

Students are required to submit their essays by noon on each Thursday. For essays 1 through 5 I will return marked up material by 17:00 h on each Friday. For submissions edited by classmates (essays 4 to 9, inclusive), students must submit their edits to me by 17:00 h on Friday. I will return the submissions to authors by 10:00 h on Monday. Please note that I do not accept late essays or late edits.

Your exit essay is due at noon on Monday 5 December 2016.

On submissions edited by classmates, I will review the comments to assess participation and effectiveness. As noted above, you must submit your essays directly to the instructor (bfenton@uwo.ca) and upload it to Turnitin. Files submitted directly to me (bfenton@uwo.ca) must be .doc or .docx. Please be sure that the file name begins with your surname, followed by your initials and the topic (e.g., FentonMB Essay1.doc). These files should include scientific names and citations (maximum 3) – as per instructions below. Students must follow instructions exactly, as if submitting a manuscript to a scientific journal for publication.

All required papers will be subject to submission for textual similarity review to the commercial plagiarism detection software under licence to the University for detecting plagiarism. All papers submitted for checking will be included as source documents for the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (http://www.turnitin.com).

Files submitted to Turnitin.com must not include citations.

12. Attendance and Participation
Students are expected to attend the classes held at 11:30 on Mondays throughout the course. Each student is required to attend and participate in the weekly meeting of the tutorial section in which he/she is registered. Each student is allowed to miss one tutorial, no questions asked, but after that the penalty is 2 marks (2% of final grade) for each tutorial missed. I will take attendance and pay attention to those who do not arrive on time and/or leave early. Being late and/or leaving early incurs a penalty of 1 mark (1% of final grade) per occasion.

After each presentation about an essay, be prepared to ask a question of the speaker or to answer the questions she/he posed. Grades will be awarded for participating in question and answer sessions.

13. Assessing Student Performance (Methods of Evaluation)
The following elements will be assessed to evaluate student performance: story line, accuracy, effectiveness of word use, grammar, spelling and overall content. Remember, you are writing about biology based on one original paper. One grade will be awarded for these parts of the essay. This grade will be reduced if students do not follow directions
Grade breakdown: 40% writing (25% based on essays 2 – 9; 15% based on exit essay); 15% for spoken presentations and 15% participation in question and answer sessions; 30% editing/reviewing. There is no examination in this course. Students will be assessed on their performance as “editors” and “reviewers” … their work on other students’ essays.

This course is not about “right” answers, it is about writing (and speaking and listening) effectively and clearly. This means that you should expect to lose marks for using the passive voice and for not making direct statements. Also expect to lose marks for using fill (junk or weasel) words (by definition words that add to the word count but not to the content. Also expect to lose marks for repetition and not taking advantage of editors’ comments.

For essays 2 – 9, I will use each student’s top 6 grades (for essays and spoken presentations) towards their final grade in the course. What does this mean to you?
   a) Write at least seven 500 word essays and 1 exit essay. Write more and discard lower grades. Write less and accumulate grades of “0”.
   b) Make at least six in class presentations of essays. Make more and discard lowest grades. Make less and accumulate grades of “0”.
   c) Edit at least four essays of others. Edit five and discard your lowest grade. Edit less and accumulate grades of “0”.

Please remember to submit your essays to me (bfenton@uwo.ca) by noon each Thursday. I will return graded and marked up essays by 17:00 h on each Friday. For essays edited by classmates (5 to 9, inclusive), students must submit their edits to me by 17:00 h on Friday. I will return the submissions to authors by 10:00 h on Monday. Note that I do not accept late essays or late edits. (For assignments 5 – 9 (edited by select classmates), to be assigned an essay to edit, a student must have submitted an essay).

Your exit essay is due by noon on Monday 5 December 2016.

14. Essay Checklist (for essays 2 – 9)
Body of essay:
   ___ your name on essay
   ___ story line or nutgraph (25 words)
   ___ double-spaced with margins
   ___ word count for essay (must be 490 - 510 words)
   ___ give value for Gunning Fog Index (GFI)
   ___ upload an electronic version of each essay (text only) to Turnitin.com
   ___ document is appropriately named and is in .doc or .docx format
   ___ did I follow the guidelines?
   ___ did I respond to editors’ comments on previous essay(s)?

Supplementary materials (for essays 2 – 10):
   ___ scientific names are correct (italicized); names of families, orders, capitalized but not italicized
   ___ at least one (no more than three) citation(s) for each essay
   ___
citations must be correct (as per course outline)
no direct quotations
no footnotes

Please note that marks will be deducted for not following the directions (see pages 8 and 9 of the course outline for details).

There is no reason to use the passive voice in any of your writing in this course. None.


From page 53 in Strunk and White.
**Nauseous. Nauseated.** The first means "sickening to contemplate"; the second means "sick at the stomach". Do not, therefore, say "I feel nauseous," unless you are sure that you have that effect on others.

from page 40 in Strunk and White .
**Among. Between.** When more than two things or persons are involved, among is usually called for: "When, money was divided among the four players." When, however, more than two are involved but each is considered individually, between is preferred: "agreement between the six heirs."


17. Some Relevant Readings.

Clark, D. 1993. Is there a science to writing (particularly science writing) and, if not, why not? The Leading Edge.
[https://www.e-education.psu.edu/styleforstudents/c10_p1.html](https://www.e-education.psu.edu/styleforstudents/c10_p1.html).
18. Citing Published Works and Web Sites

There is no single accepted format for citing published works. Indeed, journals requiring the same details of citation are the exception rather than the rule. In this course, you must use the citation format identified below.

You must cite published material in essays and use the format shown below. The purpose of citing published works is twofold. First is communication, making it easy for someone else to find the work(s) that you cite. Second is giving credit where it is due (to the author(s) who reported the information). In this course, we will follow one common scientific mode of citing published works. This model makes it easy for anyone to find the cited material. Remember there are many styles for citing published works, but please use the one described below for this course.

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In supplementary material at the end of the paper, present the scientific names as well as the detailed citations in alphabetical order by surname of first author. Use the following format. Journal papers must be cited as follows (in each situation, the author(s) and initials are provided along with the date of publication, the title, the publisher (for books) or journal with volume number and pagination):


Note the different approaches used to cite single authors, two authors and more than two authors. By the way, “et al.” should be written just like that. It is an abbreviation for the Latin, *et alia* (literally, ‘and others’). Remember that you cannot change the order of authors on a publication (for example to place the biologist you are writing about as the first author).

Chapters in books must be cited as follows:

Books must be cited thus:

Internet sources (of general information) must be cited so that I can enter the cited information and access the site.

Never use footnotes.
Never use direct quotations.
Be sure to write out surnames of authors and full name of journal.

19. Please Follow the Directions or ……..

Submitting Material On Time

Material must be submitted on time. In the absence of an appropriate written explanation (e.g., from a medical doctor), late essays or other material will not be accepted and will receive a grade of "0".

Specific Details

Please keep the following guidelines in mind as you research and write

Penalties

In the body of the essay

★ 1) provide a word count for your essay (yes, "a", "the", "and", etc. count as words). If your essay is outside the 490 to 510 words, you will lose 3 marks for not following the directions.

-3 marks

In the supplementary materials

★ 2) be sure to present common and scientific names. You must present all scientific names correctly (e.g., Myotis lucifugus). Failure to follow this guideline will cost you 5 marks (out of 10). The accepted abbreviation for a scientific name after you have presented the whole name, is the first letter of the name of the genus capitalized and followed by a period (e.g., M. lucifugus). Never write a scientific name as “the Myotis lucifugus” – “the” is unnecessary.

-5 marks

★ 3) please cite the sources you use in preparing your essay. Provide the full bibliographic citations for them at the end of the essay (as outlined in the models presented below).

-5 marks

★ 4) be sure to base your essays (2 - 9) on one or two papers published in scientific Journals. No more than 3 citations per essay

-5 marks

★ 5) no direct quotations

-10 marks

★ 6) no foot notes

-10 marks

★ 7) be sure to upload your essay text to Turnitin.com.

If you do not...

-10 marks

★ 8) calculate and show Gunning Fog Index.

If you do not ...

-5 marks

★ 9) be sure to name your submitted essays so that I can find them. The File should be called “yoursurnameinitialessayx”

-10 marks

20. Plagiarism: Students are required to submit (upload) their essays to Turnitin to minimize
the chances of copying the work of others. Turnitin provides a quantitative assessment of the overlap between one piece of writing and another. **In this course, zero overlap is the standard.** Be sure to upload only the text of your essays, not the additional materials which, in the case of citations to the literature, would automatically appear as overlap.

Please consult UWO’s statement about academic offenses
(http://www.uwo.ca/univsec/handbook/appeals/scholastic_discipline_undergrad.pdf)

21. **Support Services**  
(S.12-126)
The Web sites for Registrarial Services (http://www.registrar.uwo.ca), and the same for affiliated university colleges when appropriate, and any appropriate Student Support Services (including the services provided by the USC listed here: http://westernusc.ca/services/) and the Student Development Services, should be provided for easy access.

All course outlines should contain the following statement: “Students who are in emotional/mental distress should refer to Mental Health@Western http://www.uwo.ca/uwocom/mentalhealth/ for a complete list of options about how to obtain help.”

**Retention of Electronic Version of Course Outlines (Syllabi)**
At the same time that course outlines/syllabi are posted on the appropriate Web site, each Department must forward an electronic version of items 1-5 of each course outline (syllabus) to the Office of the Dean of the Faculty or College. By the fourth week after the start of term, the Dean’s Office will forward all of the collected outlines to Registrarial Services, where they will be maintained in electronic form in the faculty/staff extranet for a minimum of ten years after the completion of the course. (Final retention periods and disposition will be determined by the relevant records retention and disposition schedule approved by the President's Advisory Committee on University Records and Archives).
Writing in Biology. Writing for scientific purposes can be challenging and usually requires both discipline-specific study and lots of practice. Here you will find suggestions for how to read and review primary literature, models of scientific writing particular to different assignment you might encounter in course work, and explanations of several conventions of scientific writing. A resource on writing in biology that covers all aspects of writing, commonly encountered by undergraduates.