MATH 444: MATHEMATICAL RESEARCH AND WRITING  January 2020

SCHEDULE: Section 202, 12:30-2:00 TTh in MATH 204

INSTRUCTOR: Richard Anstee  Office: Math Annex 1114, phone 604-822-6105
            email anstee@math.ubc.ca  Home: phone 604-325-8877 or cell 778-323-6105

OFFICE HOURS: 2:00-3:00 TTh plus office hours later on W. You can try anytime Tuesday,
Wednesday and Thursday (I usually arrive by 9:00) and I will often be available Monday.

WEBSITE: http://www.math.ubc.ca/~anstee/math444/math444.html

TEXT: None

OUTLINE: This course does not focus on any particular content. The students will be choosing
content to present. I will initially be choosing some material from Combinatorics, Geometry,
Number Theory, Graph Theory to discuss.

GRADING: 50% from assignments, in class presentation, and classroom participation and 50%
project (no final exam)

COURSE PHILOSOPHY: This course can be described as a capstone course. It gives students
a chance to use their mathematical abilities to explore a topic of their choosing. I recommend MAA
Monthly or Mathematics Magazine or College Mathematics Journal as sources for interesting arti-
cles to explore. The group project provides a ‘research’ experience and as such has been designated
as a course to fulfill the Arts degree (B.A.) research intensive course requirement.

IN CLASS PRESENTATIONS: 10% There will be about 2 in class presentations by students.
This will be done with the aid of beamer (Latex based package)

ASSIGNMENTS: 35% of grade. There will be a variety of assignments including one due the
second class.

CLASS PARTICIPATION: 5% of grade. classroom participation; peer evaluations etc.

PROJECT: 50% of grade. The project will be done in groups of 2 or 3 students. More details
will be forthcoming as deadlines approach. Suggestions for finding suitable projects will be given
but you are invited to consider journals such as MAA Monthly or Mathematics Magazine or College
Mathematics Journal as sources. The groups must be chosen by February 6 and an written outline
of topic chosen submitted to me by February 13. I can provide advice on the scope of your project.
A report of progress will be due February 27 for which I will be provide lots of feedback. The project
itself is due March 26 (some flexibility is available if arranged with me in advance). Consultation
with me is encouraged at all stages. I mark the written project on a variety of criteria; see the
handout on the project overview.

PLAGIARISM: The students are reminded of the plagiarism policies of UBC (see Academic
Misconduct). You will need to cite sources. For this course: short passages from cited sources are
allowed (should be indicated using quotation marks). Longer passages must be digested by you
in some way and put into your own words. Don’t copy examples, create your own. Don’t copy
motivations, write your own. etc. I’m not interested in you submitting a mostly copied version of
someone else’s work for assignments/projects. Ask me if you are confused whether something is
plagiarism.

MISSED WORK: From time to time students may be unable to finish assignments or deliver
talks. Examples of valid reasons include illness and travel to play a scheduled game for a varsity
team. Examples of reasons that are not valid include conflicts with personal travel schedules
or conflicts with work schedules. Any student who misses work is to present to their instructor
the Department of Mathematics self-declaration form for reporting a missed assessment within 72
hours of the midterm date. This policy conforms with the UBC Vancouver Senate’s Academic Concession Policy V-135 and students are advised to read this policy carefully. There is a new procedure allowing a self declaration concerning term work. It is available once per course. Apart from that exceptional situation do the following: please contact me before class time on the due date, and given your reasons for the missed work. Assuming the reasons are legitimate, I will note that you will be missing the assignment. In cases where the missed work has been allowed, your grade is computed out of a smaller number than 100 and then scaled appropriately to get a grade out of 100. For example, if an assignment counts 5% and a student informs me in advance of legitimate reasons for missing the midterm, the student would have a grade computed out of 95 and then this would be scaled to a grade out of 100 by multiplying by 100/95. Without advance notice (to me by email or phone message to Math Office etc) the default will be a grade of 0 in the missed work. A student must finish a significant amount of term work in order to pass the course. Three missed assignments will probably be the limit.