Course: CHEM 503 – Drug Discovery Instructor: Youla S. Tsantrizos Instructor email: Youla.tsantrizos@mcgill.ca

Brief course description:

The aim of this course is to provide an introduction to the overall <u>Drug Discovery</u> <u>Process</u>, focusing mainly on the Research part of the Research and Development (R&D) pipeline of drug discovery. The main focus of the course will be on <u>medicinal chemistry</u>. Organic synthesis and catalysis are also key components of the course, focusing mainly on heterocyclic chemistry, high throughput library synthesis of biologically active compounds and some aspects of efficient large-scale production of pharmaceutical agents. However, other field of research that are relevant to drug discovery, including structural research (e.g. NMR, X-ray, ITC, DSF etc), biochemistry, pharmacology, metabolism and bioavailability will also be included. Drug Discovery is a multidisciplinary field of science that includes a strong component of Organic Chemistry and Biology (i.e. Biochemistry/Pharmacology) at the molecular level. Case studies from all major therapeutic areas will be discussed.

Method of Delivery:

On-Line delivery using ZOOM is very likely; however, since this is an advanced level course with a small number of student enrolment, on-campus delivery may be possible, in order to more easily allow in-class discussions. In either case, the lectures will be recorded and posted on myCources

Evaluation Scheme:

Course Evaluation for On-Line delivery

The course evaluation will be based on two Research Term Papers and two Oral Exams using ZOOM Research Term Papers 2x30%, for a total of 60% Oral Exams 2x20%, for a total of 40% (the dates and time allowed for each evaluation will be determined later)

Total Final Grade 100%

Course Evaluation for On-Campus delivery

The course evaluation will be based on two Research Term Papers and two written exams that will be taken during class Research Term Papers 2x30%, for a total of 60%

Exams 2x20%, for a total of 40%

(the dates and time allowed for each evaluation will be determined later)

Total Final Grade 100%