

# New Course

Proposal Reference Number : 4748  
PRN Alias : 12-13#121  
Version No : 3  
Submitted By : Dr Ralf Schirmmacher  
Edited By : Ms Josie D'Amico

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## New Data

Program Affected? N

Program Change Form Submitted?

Subject/Course/Term CHEM 516

one term

Credit Weight or CEU's 3 credits

Course Activities

Schedule Type	Hours per week
A - Lecture	3

Total Hours per Week : 3  
Total Number of Weeks : 13

Course Title

Official Course Title :	Nuclear and Radiochemistry
Course Title in Calendar :	Nuclear and Radiochemistry

Rationale

Currently there is no course offered at McGill dealing with the important subject matter of nuclear chemistry and radiochemistry in Life Sciences. This topic is currently experiencing a renaissance in Science because it is represented in the news more often (problems at Chalk River, Fukushima reactor, shortage of medical isotopes etc). Students have approached me in the past to be able to ask questions on such news items, because their current education does not provide them with all the information necessary to understand and put into perspective such developments. Additionally, there are a large number of job opportunities in this field (both in reactor-based fields and in Life Science oriented areas). These jobs currently remain vacant because of a lack of suitably educated students. I have started to educate students in radiochemistry in my lab, but came to the realization that they lack the necessary foundation in nuclear and radiochemistry to fully understand and excel in this field. The course will therefore present the basics of nuclear chemistry and its Life Science applications to enable students to pursue careers in this field, both in reactor-based fields and in Life Science oriented areas.

Responsible Instructor	
Course Description	Basic properties of the atomic nucleus, nuclear reactions as well as nuclear fission. Kinetics of the radioactive decay, the interaction of radiation with matter and the different kinds of radiation. Hot atom chemistry, modern aspects of medicinal radiochemistry such as Positron Emission Tomography
Teaching Dept.	0287 : Chemistry
Administering Faculty/Unit	SC : Faculty of Science
Prerequisites	CHEM 302 and (CHEM 214 or higher, or CHEM 281), or permission of instructor Web Registration Blocked? : N
Corequisites	none Web Registration Blocked? : N
Restrictions	none
Supplementary Calendar Info	
Additional Course Charges	
Campus	Downtown
Projected Enrollment	15
Requires Resources Not Currently Available	N
Explanation for Required Resources	
Required Text/Resources Sent To Library?	Y
Library Consulted About Availability of Resources?	Y
Consultation Reports Attached?	N
Effective Term of Implementation	201309
File Attachments	No attachments have been saved yet.
To be completed by the Faculty	
For Continuing Studies Use	

## Approvals Summary

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Version No.	Departmental Curriculum Committee	Departmental Meeting	Departmental Chair	Other Faculty	Curric/Academic Committee
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