

## 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

[Display Printable PDF](#)

New Data					
Program Affected?	N				
Program Change Form Submitted?					
Subject/Course/Term	CHEM 516 <ul style="list-style-type: none"> <li>one term</li> </ul>				
Credit Weight or CEU's	3 credits				
Course Activities	<table border="1"> <thead> <tr> <th>Schedule Type</th> <th>Hours per week</th> </tr> </thead> <tbody> <tr> <td>A - Lecture</td> <td>3</td> </tr> </tbody> </table>	Schedule Type	Hours per week	A - Lecture	3
	Schedule Type	Hours per week			
A - Lecture	3				
Total Hours per Week : 3 Total Number of Weeks : 13					
Course Title	<table border="1"> <tbody> <tr> <td>Official Course Title :</td> <td>Nuclear and Radiochemistry</td> </tr> <tr> <td>Course Title in Calendar :</td> <td>Nuclear and Radiochemistry</td> </tr> </tbody> </table>	Official Course Title :	Nuclear and Radiochemistry	Course Title in Calendar :	Nuclear and Radiochemistry
	Official Course Title :	Nuclear and Radiochemistry			
Course Title in Calendar :	Nuclear and Radiochemistry				
<table border="1"> <tbody> <tr> <td>Rationale</td> <td> <p>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 academia and the industry.</p> </td> </tr> </tbody> </table>		Rationale	<p>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 academia and the industry.</p>		
Rationale	<p>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 academia and the industry.</p>				

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

[Show all comments](#)

Version No.	Departmental Curriculum Committee	Departmental Meeting	Departmental Chair	Other Faculty	Curric/Academic Committee	Faculty	SCTP	Version Status
3								Submitted to Departmental Curriculum Committee for approval Edited by: Josie D'Amico on: Nov 16 2012
2								Submitted to Departmental Curriculum Committee for approval Edited by: Ralf Schirmacher on: Sep 21 2012
1								Submitted to Departmental Curriculum Committee for approval Created on: Sep 17 2012