

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 the

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| 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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