Information and Application Guide to the Chemical & Pharmaceutical Engineering (CPE) Programme

2010/2011

CONTENTS

The information in this guide is correct at the time of publication. However, SMA reserves the right to make changes when necessary and without prior notice.

1 About Us

The Singapore-MIT Alliance (SMA) is a global partnership between Massachusetts Institute of Technology (MIT), National University of Singapore (NUS) and Nanyang Technological University (NTU).

Founded in November 1998 to promote global graduate science & engineering education and research, SMA is the world's largest interactive distance education initiative. The partnership taps world-class engineering expertise, ideas and technology required for cutting-edge research to fuel Singapore as well as the region's growth as an innovation and education hub.

Please visit the SMA website at: http://www.sma.nus.edu.sg for more details.

2 Programme Co-Chairs

The CPE programme is chaired by two faculty members: 1 each from NUS and MIT. They are Professor Raj Rajagopalan from the Department of Chemical and Biomolecular Engineering, NUS and Professor Bernhardt L. Trout from the Department of Chemical Engineering, MIT.

3 Degree Tracks and Candidature

The admission in July 2010 intake is for the CPE programme only.

The Chemical & Pharmaceutical Engineering (CPE) programme offers the following degree tracks:
- An MIT Master's and an NUS Master's (Dual Masters)
- An NUS PhD degree with SMA certificate (Direct-entry PhD)

The expected period of candidature is as follows:
- Dual Masters degree - 1.5 years
- Direct PhD degree ≥ 4 years

3.1 Dual Masters degrees

In the Dual Masters degrees track, the ***MIT degree in Master of Science in Chemical Engineering Practice*** and the ***NUS degree in Master of Science in Chemical and Pharmaceutical Engineering*** are awarded.

The MIT Master of Science degree requires students to take five core modules, one elective and complete sixteen weeks at Practice School. At Practice School, students will reside at two host company stations. At each station, students will work on projects in teams and be supervised by a resident MIT staff member.

The NUS Master of Science degree requires students to read one core module and six electives. A total of three MIT modules are transferred as credits towards the NUS degree.

3.2 Direct PhD degree

In the direct PhD degree track, the NUS PhD degree with an SMA certificate is awarded.

This is a research doctorate degree programme with an emphasis on synthesis skills, engineering design and interdisciplinary approaches focused on chemicals and pharmaceuticals. The training includes communication, problem solving and participation in cutting-edge research and technology with a focus on entrepreneurship and innovation. The degree prepares graduates for dynamic careers in industrial research and development centres, research institutes or academic departments interested in molecular engineering and chemical engineering processes. Students must read 6 NUS modules and take the PhD Qualifying Examination (QE). The QE will be in the format of an oral examination. The thesis research is co-supervised by a faculty member each from NUS and MIT and in many cases, carried out in collaboration with researchers in Singapore's research institutes.

PhD students are also required to present their research to faculty members, graduate students and visitors as part of the Doctoral Seminar requirement.

4 Programme Requirements

4.1 Admission Requirements

Candidates are enrolled at the beginning of July 2010 on a full-time basis only. For the Dual Masters degrees programme, successful applicants must independently satisfy the admission requirements at MIT as well as NUS, as defined and approved for the programme by each co-hosting Alliance University and its faculties, in accordance with their applicable policies, procedures and standards.

To be admitted to NUS, a student must have earned a good Bachelor's degree and/or Master's degree in the fields of Chemical Engineering, Pharmaceutical Engineering, Bioengineering and Chemistry with a 1st Class or 2nd Class Upper Honours degree or its equivalent from a university of acceptable standing. Students who are in their final-year of undergraduate studies, may be provisionally admitted on the condition that the final academic results meet SMA's academic entry requirements. Applicants are evaluated on the basis of their prior performance and professional promise, as evidenced by their academic records, letters of evaluation from individuals familiar with their capabilities and any other pertinent data they submit. While high academic achievement does not guarantee admission, SMA expects such achievement or other persuasive evidence of professional promise.

For admission as a PhD candidate, the candidate must submit evidence of adequate training and ability to undertake the proposed course of study.

SMA requires the GRE general test scores to be submitted by each applicant when applying for admission into the Dual Masters degrees programme. Please note that the GRE scores are valid for 5 years from the test date. GRE is also required for direct PhD applicants but a written request for waiver can be submitted together with the application. Waiver may be granted on a case-by-case basis. Applicants with first degrees from NUS or NTU are exempted from the GRE requirement **ONLY** when the degree to be awarded is a direct PhD degree. You may obtain more information on GRE by visiting the Educational Testing Service (ETS) web site at http://www.ets.org.

Submission of the International English Language Testing System (IELTS) or Test of English as a Foreign Language (TOEFL) is required for applicants applying for the Dual Masters degrees. For admission into NUS, a minimum score of 6 is required for IELTS while a minimum computer-based score of 237 (85 internet-based, 580 paper-based) is required for TOEFL. Please note that the TOEFL/IELTS scores are valid for 2 years from the test date. You will however have to check the minimum score requirements for the MIT Masters in Chemical Engineering Practice (MS-CEP), which may be higher.

For admission into the direct PhD degree track, you can submit a written request for waiver of IELTS/TOEFL together with your application if you fall into one of the following categories:

a. received instruction in English in their primary and secondary schools.
b. been in an English speaking country for four years or longer.
c. received first degree from an American, British, Canadian, Australian or New Zealand university.
d. received first degree from NUS or NTU.

Reimbursement of GRE and IELTS/TOEFL fees

All candidates (except for the category marked * indicated below) who meet the stipulated terms and conditions set out by SMA are eligible for reimbursement of the GRE and/or IELTS/TOEFL fees.

* Candidates who have received/will receive their first degrees from NUS or NTU and have enrolled in the direct PhD degree track are not eligible to seek reimbursement for GRE and/or IELTS/TOEFL fees unless there is a request to submit these test scores.

The guidelines for the reimbursements are as follows:

a. GRE and IELTS/TOEFL tests must be taken at most up to 1.5 years before enrolment with SMA. For July 2010 admission, the test dates should not be earlier than January 2009, in order to be eligible for the reimbursement.

b. Proof of payment in the form of original receipt and/or print-out of the electronic confirmation of the test booking with the payment indicated, must be enclosed with the completed claim form.

c. Reimbursements will be made only after you have successfully completed all the coursework requirements for Semester 1: July to August 2010 and met the continuation requirements to proceed to the next semester of study.

4.2 Application process and fees

For application into the dual degrees programme, you must submit separate application materials to MIT and NUS.

The application fee for NUS is S$20 (including 7% GST) for online application. There will be no hardcopy application. There is an acceptance fee of S$53.50 (including 7% GST) should you decide to accept the offer of admission into NUS.

You are eligible for reimbursement of the SMA acceptance fee and NUS application fee if you successfully complete all the coursework requirements for Semester 1: July to August 2010 and meet the continuation requirements to proceed to the next semester of study.

4.3 Intake and Timelines

This is the final intake* for the CPE programme. You can submit your application between October and December 2009. The application deadline is:

NUS and MIT Masters degree: 2nd January 2010
NUS Direct PhD degree: 31st March 2010

The offer of admission will be made in March or April and you are expected to indicate your acceptance in April or May. You will be notified of the date later.

** The final intake for the 4 SMA programmes was July 2009 and these programmes are no longer offered.*

4.4 Residency Requirements

NUS Residency Requirement

Students must reside in Singapore in accordance with the period stipulated.

MIT Residency Requirement

The MIT residency requirement for the Dual Masters students is as follows:

Programme	Duration of MIT Residency	Term During Candidature
CPE	4 months (Sep – Dec)	1st Fall (1 semester only)

The direct PhD students may spend up to a total of two semesters at MIT, subject to the necessary approvals.

4.5 Continuation and Graduation Requirements

<u>For Degree conferred by NUS</u>

Master's degree

To continue to the next stage of study, the CAP must not fall below 2.5 for two semesters or 3.0 for three semesters.

To be eligible for graduation, a student must achieve a minimum Cumulative Average Point (CAP) of 3.0 for all the required modules as well as have successfully completed all the requirements prescribed by the programme of study.

Direct PhD degree

To continue to the next stage of study, the CAP must not fall below 3.0 for 2 semesters or 3.5 for 3 semesters.

To be eligible for graduation, a student must achieve a minimum CAP of 3.5 for all the required modules and have passed the PhD qualifying examination, oral examination and PhD thesis.

There is no stipulation for students to graduate with a Master's by research degree in the event he or she does not fulfill the continuation and graduation requirements for a PhD degree.

5 SMA Graduate Fellowship

All candidates successfully admitted into SMA will be awarded SMA Graduate Fellowships and be known as SMA Graduate Fellows. The SMA Graduate Fellowship monthly stipend is S$2000 for foreign students and S$2500 for Singapore citizens and Singapore permanent residents. The maximum funding for the Dual Masters' students is 18 months while that for the direct PhD students is 4 years. In addition, a living allowance of US$1000 per month, up to a maximum of US$6000, will be given for the residency at MIT. The SMA Office will fund an economy-class roundtrip airfare to Boston.

PhD students will receive an additional S$500 per month upon passing the PhD Qualifying Examination. The tuition fee imposed by NUS and MIT will be fully borne by the SMA Office.

6 Other Administrative and General Information

6.1 SMA Academic Calendar

Each academic year starts in July and ends in the following June. There are three semesters in one academic year, Semester 1 (July – Aug), Semester 2 (Sep – Dec) and Semester 3 (Jan – June).

6.2 Holiday Leave

Masters students are given a holiday leave entitlement of 10 days per calendar year while PhD students have 21 days of holiday leave per calendar year. Unused leave cannot be carried over to the next academic or calendar year for both coursework and research students. Any leave taken in excess of the entitlement will be treated as unpaid leave and the monthly stipend and allowances will be deducted accordingly.

6.3 Housing Services

Accommodation in Singapore can be arranged through the Office of Student Affairs at NUS. If you choose to secure your own accommodation, select one which has convenient transport to the university where the lectures are held, bearing in mind that the lectures which are held via video conferencing would take place in the early morning or late evening hours. If you choose to stay at the university on-campus accommodation, you must stay for at least one semester.

6.4 Insurance Schemes

It is mandatory for all students to enroll in the NUS Group Medical Insurance Scheme (GMIS).

6.5 Campus Services

The Office of Student Affairs at NUS provides a range of services to international students. The office provides students instant access to service information anytime, anywhere. In addition, students may pose new questions relating to services handled by the NUS Student Service Centre. Please visit: www.askstudentservice.nus.edu.sg.

Details of these services can be found on the NUS website. Regular internal bus services operate within the campus. Feeder services are available from the campus to the Mass Rapid Transit (MRT) stations.

6.6 Student Life in Singapore

Situated almost on the Equator, Singapore enjoys year-round sunshine and temperatures that seldom fall below 22°C. Short, heavy downpours and the occasional deluge are a blessing rather than a nuisance as they refresh the hot and humid atmosphere.

Refuge from the heat is easily available, as most public buildings and public transport are air-conditioned, as are all offices, lecture theatres, laboratories and libraries in NUS.

NUS is well connected with the rest of the island. It takes about 30 minutes to reach the main business and shopping areas by bus or by the very efficient MRT (Mass Rapid Transit) system.

Thanks to Singapore's multi-cultural background, Chinese, Malay, Indian and Western food are found in every corner of the island. The cuisine of a hundred other lands is at hand, attesting to the cosmopolitan nature of Singapore as well as to the "national pastime" of Singaporeans: their passion for good food.

You can obtain more information from http://www.visitsingapore.com/

6.7 International Students: When arriving in Singapore

Each international student admitted to the SMA Programme needs an international passport issued by the government of their country. The passport should be valid for at least one year at the point of admission. International students will have to make their own arrangements and pay for their round-trip travel from their home countries to Singapore.

The Singapore government requires international students of certain nationalities to have entry visas to enter Singapore. Once a student accepts the offer for admission to SMA, the student is required to apply the entry visa online. Once the entry visa request is approved, an 'In-Principle Approval' (IPA) letter, which has a validity period for a one-month stay in Singapore, will be sent to the student. The student can then use this letter, which serves as a single-journey entry visa to enter Singapore.

It is mandatory for **ALL** international students, irrespective of nationality, to take and pass the medical examination required by ICA. The medical examination can be either taken in your home country or upon arrival in Singapore. We strongly recommend that you take the medical examination in your home country. Details of this will be sent to you together with the offer of admission.

Upon registration at the SMA Office, the IPA letter will be stamped. You will need to make an e-appointment at the ICA website and bring the letter, medical report and relevant documents to the ICA. You will then be issued a Student's Pass together with a Visit Pass & Disembarkation/Embarkation Card for the entire period of candidature.

6.8 Expenses in Singapore

The table below provides an estimate of expenses that an international student could incur while in Singapore.

Item	Estimate in S$
Off-campus housing Rented room (Single) Rented room (Double)	 650-800 pm 450-500 pm
Food Meals outside Campus University canteens/Food Courts	 300-350 pm 250-350 pm
Books	300-500 pa
Transport Public bus/MRT	 150-200 pm
Personal expenses (e.g. toiletries, clothing, groceries, entertainment etc.)	 150-200 pm
Examination Fee **Master's/PhD** One-time payment	 267.50/535*
Acceptance fee One-time payment	53.50*

Miscellaneous fee	
Student Activity & Services	$34.24* per semester
Academic-related	$18.35* per semester
Medical Insurance	$58.85* per semester
Contingency	2,500 pm

pm-per month pa-per annum
* includes GST and is subject to change

6.9 NUS Campus

A vibrant social and cultural scene on the NUS campus complements the atmosphere of serious study in the lecture halls. Students can develop their appreciation for the arts or pursue their own special interests in many ways.
NUS located in the west coast of Singapore, is fast becoming a top-league university. More information on NUS can be found at: http://www.nus.edu.sg

6.10 Teaching Facilities

Classes are conducted using a combination of face-to-face lectures and state-of-the-art interactive distance learning technology via Internet2. The distance education facilities are located at the Centre for Instructional Technology (CIT) and Technical Services Unit (TSU) at Engineering Faculty at NUS. The beaming of lectures takes place during the early morning or late evening hours to coincide with the time difference between Singapore and Boston. CIT and TSU Engineering are the IT support arms for SMA's interactive distance learning at NUS.

6.11 Research Facilities

NUS has made its mark as research-intensive university. The research focus is collaborative and multi-disciplinary. The research undertaken is focused on contributing to Singapore's development as a scientific and technological hub. Research is conducted at the academic departments, research centres and national research institutes to which the SMA Fellows are affiliated. The relevant research facilities at NUS are generally available to the SMA students.

6.12 Student Location

Students work together in the Atheneum, an open learning environment, where each is assigned a cubicle and personal computer.

6.13 Computer Centre

Computer Centre (CC) has built an IT-vibrant environment on campus by continuously strengthening its IT computing and networking infrastructure, upgrading its resources and services to support the academic and administrative goals. It constantly adopts the best and advanced technology, systems and applications which are strategic in maintaining competitiveness. This emphasis has ensured that the university receives nothing short of excellent IT support and services and continues to be a major power house in the development of Singapore as an intelligent island of the new millennium.

Computer Centre spearheads the development of an IT-intensive environment on campus and provides a comprehensive computing and networking infrastructure to enable the university community to fully exploit IT for effective teaching, learning, research and administration. Students are encouraged to purchase notebooks through the university Notebook Ownership Scheme.

6.14 Library Facilities

The National University of Singapore has library facilities that offer a rich and diverse collection of materials in various disciplines to encourage and support scholarly pursuits and research activities of the faculty and students. A comprehensive range of services is provided in each library, including loans, online renewal and reservation, inter-library loan, reference service, online information search, document delivery, and the use of audiovisual and microform materials. More information on the libraries can be found at the following websites: http://libpweb1.nus.edu.sg/web/appmanager/lib/desk

7 Course Listings

SMA5430 Kinetics of Chemical & Biological Systems
Modular credits: 4
Workload: 3-1-NA-5-3
Pre-Requisite: A degree in Chemical Engineering or by permission of instructor
Preclusion(s)/ Cross-listing(s): NA

The module focuses on a comprehensive treatment of the kinetics of complex chemical reactions, physical processes, and biological processes. It begins with a fundamental analysis of reaction order in homogeneous reactions and proceeds with the kinetics of heterogeneous systems and catalytic reactions. Methods of measuring and calculating reaction rate constants will be included. After a basic stoichiometric analysis of biological reaction networks, the course will discuss kinetics of enzymatic reactions and extensions to kinetic characteristics of reaction pathways and bioreaction networks. Similarities and differences between chemical and biological kinetics are discussed along with concepts of rate-limiting steps and distribution of control among several reactions in a pathway. The course concludes with applications to the kinetic analysis of chemical and biological reaction systems in the chemical and pharmaceutical industries.

SMA5431 Systems Engineering
Modular credits: 4
Workload: 3-NA-NA-3-6
Pre-Requisite: A degree in Chemical Engineering or by permission of instructor
Preclusion(s)/ Cross-listing(s): NA

The course has been designed as an introduction to the elements of systems engineering and its application to the chemical engineering academic or industrial research and practice. The 'Systems Approach' is introduced as a basic paradigm for solving complex engineering problems, and emphasis is placed on developing skills in problem formulation, system synthesis, and use of analytical tools. Some of the topics to be presented include: graph theory as applied to systems engineering problems, sequential modular and equation oriented process modelling tools (Aspen Plus, ABACUSS II), mathematical systems and control theory, treatment of data and experimental design, generation of models from data, and optimization theory and algorithms. Application of these methodologies and tools will be illustrated with a series of case studies involving steady-state and dynamic process simulation, control system synthesis, new product and process design, plant wide diagnosis and planning, formulation and decomposition of large scale problems, and systems biology.

SMA6779 Doctoral Seminars

Modular Credits: 4

Workload: NA-NA-NA-NA-NA

Pre-requisite(s)/Preclusion(s)/Cross-listing(s): Nil

This course is for SMA PhD students and it requires students to 1) attend at least one technical parallel session during the SMA Annual Symposium and 2) present at least 2 seminars on their research during their candidature, excluding the qualifying examination oral and final oral defence but including the SMA Annual Symposium. For each seminar presentation, the abstract, presentation materials (such as Powerpoint file), etc are to be printed and submitted to the SMA Office. Grading is on S/U on the basis of attendance, participation and presentation.

CN6999 Doctoral Seminars
Students have to satisfy the seminar requirements set by Department of Chemical and Biomolecular Engineering and SMA. Students have to 1) attend at a minimum of 6 Postgraduate seminars per semester (up to 6 semesters for PhD) 2) satisfactory performance at the 1-day Presentation Skills Workshop 3) attend 2 seminars on Lab Safety organized by the Department 4) attend 1 seminar on Scientific Report Writing and Ethics in Research 5) Attend Lecture Series on Research Ethics 6) present at least 2 seminars on your research during your candidature, excluding the Qualifying Examination oral and final oral defence but including the SMA Annual Symposium. For each seminar presentation, the abstract, presentation materials (such as Powerpoint file), etc are to be printed and submitted to the SMA Office.

The seminar requirement for point 1 includes attendance of MIT seminars and SMA Annual Symposium. It also includes attendance for Oral Defence held by Department of Chemical and Biomolecular Engineering.

10.34 Numerical Methods Applied to Chemical Engineering
Modular credits: 3
Workload: 3-NA-NA-NA-9
Pre-Requisite: Permission of instructor
Preclusion(s)/ Cross-listing(s): NA
This MIT course focuses on the use of modern computational and mathematical techniques in chemical engineering. It introduces mathematical analysis, numerical methods, probability and statistics, solving partial differential equations. Starting from a discussion of linear systems as the basic computational unit in scientific computing, methods for solving sets of nonlinear algebraic equations, ordinary differential equations, and differential-algebraic (DAE) systems are presented. Probability theory and its use in physical modeling is covered, as is the statistical analysis of data and parameter estimation. The finite difference and finite element techniques are presented for converting the partial differential equations obtained from transport phenomena to DAE systems. The use of these techniques will be demonstrated throughout the course in the Matlab® computing environment.

10.40 Chemical Engineering Thermodynamics
Modular credits: 4
Workload: 4-NA-NA-NA-8
Pre-Requisite: Permission of instructor
Preclusion(s)/ Cross-listing(s): NA
This MIT course aims to connect the principles, concepts, and laws/postulates of classical and statistical thermodynamics to applications that require quantitative knowledge of thermodynamic properties from a macroscopic to a molecular level. Basic postulates of classical thermodynamics. Application to transient open and closed systems. Criteria of stability and equilibria. Constitutive property models of pure materials and mixtures emphasizing molecular-level effects using the formalism of statistical mechanics. Phase and chemical equilibria of multicomponent systems. Applications emphasized through extensive problem work relating to practical cases.

10.50 Analysis of Transport Phenomena
Modular credits: 4
Workload: 4-NA-NA-NA-8
Pre-Requisite: Permission of instructor
Preclusion(s)/ Cross-listing(s): NA
This MIT course introduces concepts of mass transfer, heat transfer and fluid mechanics for chemical engineers. Unified treatment of heat transfer, mass transfer, and fluid mechanics, emphasizing scaling concepts in formulating models and analytical methods for obtaining solutions. Topics include conduction and diffusion, laminar flow regimes, convective heat and mass transfer, and simultaneous heat and mass transfer with chemical reaction or phase change.

For MIT courses offered by Department of Chemical Engineering, please visit: http://ocw.mit.edu/OcwWeb/Chemical-Engineering/index.htm

8 Instructions on submission of application materials

Candidates should submit their application through the online application system as follows:

NUS Master's degree: https://inetapps.nus.edu.sg/pas/common/login.aspx
NUS Direct PhD degree: https://inetapps.nus.edu.sg/rschappl/

Online application should be followed by submitting printed copies of the required application materials together with the application fee of S$20.00 (inclusive of 7% GST).

Applicants may visit the SMA website: http://web.sma.nus.edu.sg/students/programmes/cpe.htm for more information on the programme.

Payment for the application fee should be made either by cheque or bank draft drawn on a bank in Singapore, crossed, and made payable to "**National University of Singapore**". It must be made in Singapore dollars. Please write your **name, postal address and programme and degree applied for** on the reverse of the cheque/bank draft. Personal cheques are accepted only from candidates in Singapore. **Foreign applicants** are requested to send **only bank drafts** and not personal cheques for the application fee stated above.

Submit documents:
Put all the application materials and documents into an envelope and send it via mail or courier to the SMA Office. Please indicate "**Application for 2010/2011 intake**", CPE programme and degree track you are applying for outside the envelope. The materials should be sent to the following address:
Singapore-MIT Alliance (SMA)
E4-04-10
4 Engineering Drive 3
Singapore 117576

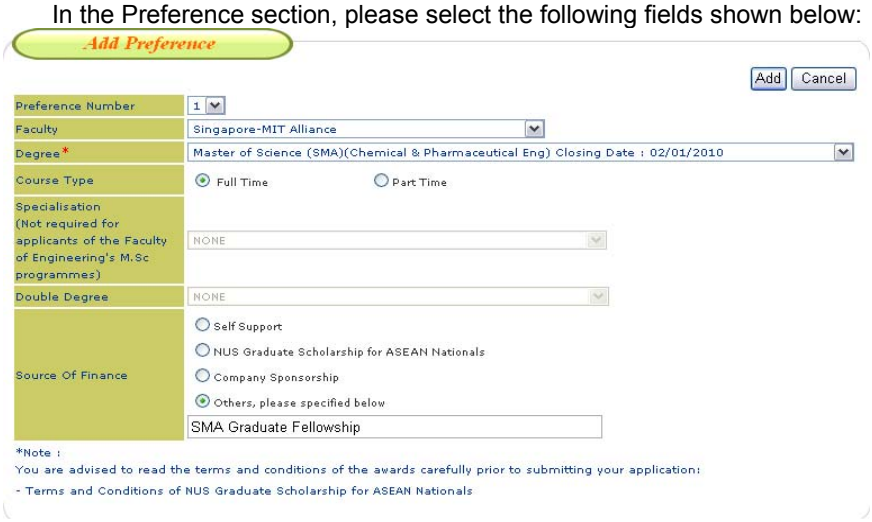
Note to Applicants:
- Any omission of information required in the application forms or supporting document will render the application void.
- Apply early to take the TOEFL/IELTS and GRE tests.
- All forms must be completed. Write clearly using black or blue ink.
- All application forms must be completed in English.
- Keep a copy of all the application materials for your own record.
- SMA will not process your application until all the required documents are submitted.

TIMELINES:
- NUS Master's degree submission of applications: 1 October 2009 – 2 January 2010
- NUS Direct PhD degree submission of applications: 1 October 2009 – 31 March 2010
- Notification of application status: From 31 March 2010 onwards
- Acceptance of offer made: By 15 April 2010

All dates are subject to changes. Please visit the SMA website for updates.

8.1 Special instructions on the online application for the NUS Master's (CPE) degree

In the Preference section, please select the following fields shown below:

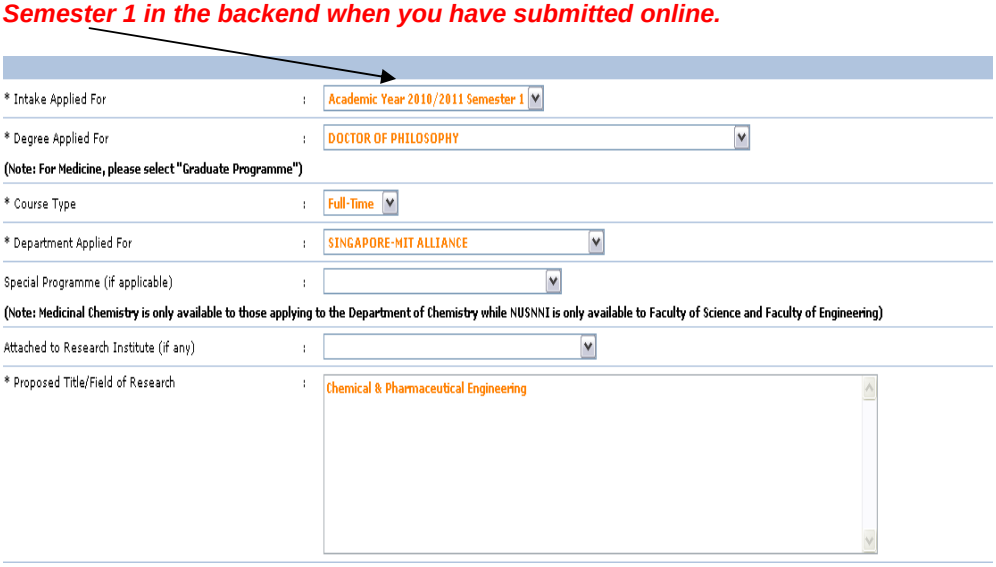


8.2 Special instructions on the online application for the NUS Direct PhD (CPE) degree

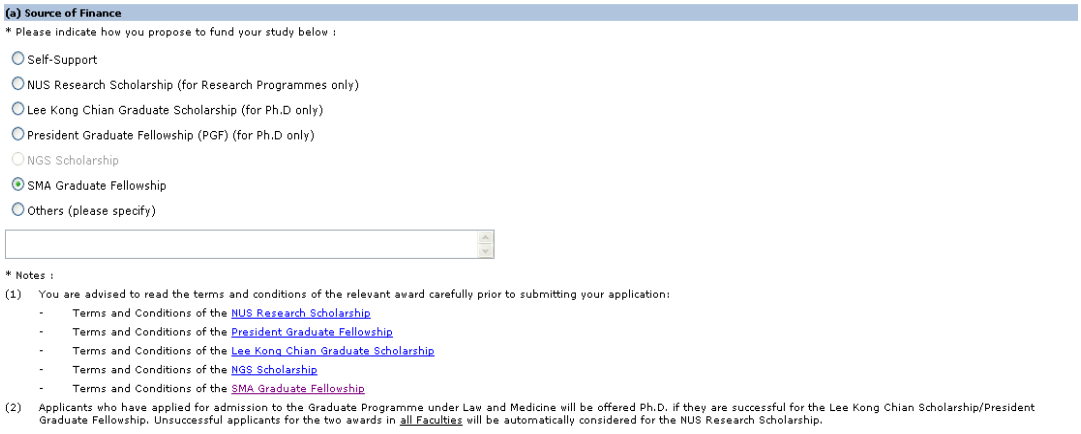
There are certain fields which require you to select accordingly.

Under Section V-Choice of Research Programme, please select the following fields shown below:

As there are some technical issues in the "Intake Applied For", the default is "Academic Year 2010/2011 Semester 2". Thus, leave it as Semester 2 and we will change it to Semester 1 in the backend when you have submitted online.



In the Section XI-Other Information, please select "SMA Graduate Fellowship"



8.3 Application Checklist

Please include the following documents in your application:

1	**Application Fee Form and Cheque/Bank Draft**	☐
2	**A copy of the completed Online Application Form (with a recent passport-sized photograph attached) duly declared and sign**	☐
3	**Copy of Singapore NRIC or citizenship certificate** for Singapore citizens OR **Copy of Re-entry permit** for Singapore PRs OR **Copy of Passport page showing nationality and personal details** for International Applicants	☐
4	**Your Bachelor's and/or Master's degree transcript & certificate(s) (with English translation, if applicable)** Note: Request for your transcript(s) and a certified copy of the degree certificate from each university you attended and submit these in a sealed envelope to the SMA office. The transcript should contain your university record to date, with a statement of your ranking in your class and department, if available. Applicants who have attended universities that do not issue transcripts should submit certified or attested copies of all grade reports, examination results and diplomas. The transcripts and degree certificate must be in English. You should request your college/university to send the transcripts and degree certificate to you, enclosed in a SEALED envelope with the Registrar's or authorised person's signature and official security seal across the envelope opening.	☐
5	**A copy of TOEFL/IELTS and GRE scoresheet** For admission into NUS, applicants may submit photocopies of their TOEFL/IELTS and GRE scoresheets but those who have been offered admission will be required to show the original scoresheets during registration with SMA.	☐
6	**Statement of Objectives Form** (*downloadable from online application system-coursework*)	☐
7	**Curriculum vitae/Resume**	☐
8	**3 sets of Evaluation for Graduate Admission** (*downloadable from online application system-coursework*) Ask three professors (or two professors and one supervisor/manager, if you are employed) who know you well, to write their evaluations. Submit each evaluation in a sealed envelope together with your application materials. The evaluations must be the original copies; photocopies and evaluation letters written in formats, other than the one required by SMA, will not be accepted.	☐
9	**SMA Graduate Fellowship Form** *(downloadable from online application system-coursework)*	☐
10	**Copy of Publications(s) (if any)**	☐

Please submit the documents in the above order. Thank you.