# UNIVERSITY OF ILLINOIS CHICAGO

# DEPARTMENT OF CHEMICAL ENGINEERING UIC Engineering Innovation Building 945 W Taylor St, Chicago, IL 60608

# GRADUATE STUDENT HANDBOOK

# 2020 - 2021 Academic Year

This manual contains information about the chemical engineering department, the graduate college, and many of the regulations and procedures you will encounter during your studies at UIC. This information supplements the current graduate college catalogue and in no way supersedes the official general rules and regulations of the graduate college and university.

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# WELCOME TO CHICAGO!

#### A Letter from the Department Head:

We are delighted that you have chosen to pursue your graduate education in Chemical Engineering at University of Illinois Chicago. Your admission to our graduate program attests to your qualifications to complete a course of study at either the M.S. or the Ph.D. level. The Faculty of the Chemical Engineering Department, with an unusually broad range of interests and a heavy commitment to research and high-quality graduate education, is also committed to assisting you in every way possible to achieve your goal of successful completion of your graduate studies.

This handbook, which describes the Department and the graduate programs in detail, is one way we can help you organize your studies efficiently. In addition, you have been (or will be) assigned an academic advisor whom you should feel free to consult as often as you need. You should also note that the current research interests of the faculty immediately follow this letter. You should use this list to determine which particular faculty members have research interests that coincide with your own and should meet with them as you begin to plan your research program.

Please feel free to stop by and see us if you have any questions.

Vikas Berry Department Head Department of Chemical Engineering

# **Faculty Research Interests**

<u>Vikas Berry</u> Ph.D. Virginia Polytechnic Institute & State University, 2007, Associate Professor and Head

Graphene and 2D nanotechnology, bionanotechnology, materials science, electronic materials, molecular electromechanics, sensors, and (electrical, structural, and chemical) characterization of nano- and bio-materials.

#### Chaplin, Brian P. Ph.D. University of Illinois Urbana-Champaign, Assistant Professor

Electrochemical and catalytic water treatment technologies, heterogeneous reaction mechanisms, membranes, immobilization of toxic heavy metals.

# <u>Cheng, Gang</u> *Ph.D.* University of Washington Seattle, 2009, Associate Professor and Director of Graduate Studies

Polymer and biomaterial design, synthesis and characterization, nanomedicine for nucleic acid, protein, and anticancer drug delivery, protein engineering, biosensing, and biointerfacial phenomena.

<u>**Kim, Sangil**</u> *Ph.D. Virginia Polytechnic Institute & State University (Virginia Tech), 2007, Assistant Professor* 

Mass transport in nanofluidics. Nano- and micro-engineered membrane technologies for gas separation, water purification, biomolecules separation, protective fabrics, and energy production/conversion.

#### Liu, Ying Ph.D. Princeton University, 2007, Associate Professor

Self-assembling nanoparticles for targeted drug delivery and cardiovascular imaging. Microfluidic technologies for particle synthesis, drug screening, and cell encapsulation.

#### Mehraeen, Shafigh Ph.D. Stanford University, 2011, Assistant Professor

Statistical thermodynamics and computer simulation studies of self-assembly, diffusive and reactive complex fluids, charge transport in light-harvesting systems and solarphotochemistry.

#### Ngo, Anh Ph.D. Ohio University, 2010, Associate Professor

Multiscale Modeling, Computational Materials Science for Materials Design, Renewable Energy and Nanotechnology, Advanced Battery Materials, Strongly Correlated Quantum Materials

#### Sharma, Vivek Ph.D. Georgia Institute of Technology, 2008, Assistant Professor

Soft Matter ODES: Optics, dynamics, elasticity and self-assembly. Fizzics (the science of bubbles, drops, emulsions & foams). Rheology & processing of complex fluids. Polymers, colloids, liquid crystals & proteins. Structural color.

#### Singh, Meenesh Ph.D. Purdue University, 2013, Assistant Professor

Artificial Photosynthesis, Pharmaceutical Engineering, Carbon Capture and Sequestration, Balancing Nitrogen Cycle, Water Purification, Solar Energy Conversion, Computational Materials, Electrocatalysis and Electrochemical Engineering.

#### Takoudis, Christos Ph.D. University of Minnesota, 1982, Professor

Microelectronic materials and processing, micro fabrication techniques, chemical sensors, micro-electro-mechanical systems (MEMS), heteroepitaxy in group IV materials. In situ surface spectroscopies at interfaces, heterogeneous catalysis, novel approaches to reaction kinetics, reaction engineering.

#### Wedgewood, Lewis E. Ph.D. University of Wisconsin-Madison, 1988, Associate Professor

Non-Newtonian Fluid mechanics; polymer kinetic theory, molecular-level simulation of complex liquids, continuums mechanics, laser-Doppler velocimetry.

# **The Graduate Committee**

This committee, through its Chairman, the Director of Graduate Studies (DGS), is responsible for the administration of the Department's graduate program. The Graduate Committee has the responsibility of evaluating and processing the applications for admission to the Graduate College, advising graduate students on programs of study and Department rules and regulations, evaluating newly submitted graduate courses and programs of study, recommending graduate students for financial assistantships, fellowships, and other financial aid programs, supervising graduate exams, and evaluating student academic progress. The Chemical Engineering Graduate Committee is currently comprised of:

> Dr. Gang Cheng, Director of Graduate Studies Dr. Sangil Kim Dr. Shafigh Mehraeen Dr. Meenesh Singh Dr. Berry (alternate DGS)

The Graduate Program Coordinator is:

Mr. Eduardo Manuel Martinez Room 226 EIB, phone: (312) 996-3424 fax: (312) 996-0808 E-mail: emarti59@uic.edu

#### **Application and Admission Requirements, Limited Standing**

The "Application for Graduate Studies", the "Declaration and Certification of Finances" form, transcripts, and TOEFL scores are sent to the Office of Admissions and Records (OAR) while 3 letters of recommendation and the "Application for Graduate Appointment" with an attached personal statement are sent directly to the Department of Chemical Engineering. Files can be considered without the Financial Certification form; it should be stated clearly to the OAR that your matriculation depends on full financial support. The OAR will compute an equivalent grade point average from your transcript. Once your grades are "translated" and all other materials have been received by OAR, your file will be sent to the Chemical Engineering Department for review by the Graduate Committee.

The Department reviews each applicant on an individual basis in view of multiple factors including, but not limited to, grades, grade point average, prior academic experience, references, independent and supervised research, and test scores. All decisions reflect these cumulative and multifaceted criteria, and no one factor is determinative. GPA and test scores, which meet minimal requirements, do not guarantee admission since applicants are judged on their overall qualifications. Applicants for a degree or non-degree admission must submit complete transcripts from all colleges and universities attended. The Department has no minimum required GRE score.

For admission to the M.S. degree program, applicants must have an engineering baccalaureate from an accredited college or university, a grade point average of at least 3.00 (A=4.00) for the final 60 semester hours of undergraduate study, and must submit three letters of recommendation.

Applicants to the Ph.D. degree program are similarly evaluated on the basis of their overall records. A minimum grade point average of 3.00/4.00 will be required before an application will be processed, and the preferred minimum accepted for admission is 3.5. All decisions regarding admission to graduate study in the degree program are discretionary and are determined solely by the Department with the approval of the Graduate College.

Applicants with degrees in natural science fields other than chemical engineering can apply for admission to the M.S. or Ph. D. program in Chemical Engineering on a Limited Standing. These students must remedy deficiencies in their preparation within two semesters after the start of their academic program, after which they may be granted Full Standing in the chemical engineering graduate program.

For entering students with an adequate\* background in Mathematics, Physics, and Chemistry, but without undergraduate training in Engineering, the courses (areas of deficiency) to be completed\*\* in the first two semesters are:

- 1. Material and Energy Balances (ChE 210)
- 2. Chemical Engineering Thermodynamics (ChE 301)
- 3. Transport Phenomena I (Momentum transfer, ChE 311)
- 4. Transport Phenomena II (Heat and mass transfer, ChE 312)
- 5. Transport Phenomena III (Separation processes, ChE 313)

6. Chemical Reaction Engineering (ChE 321)

\*Students without three full years of chemistry (Inorganic, Organic, and Physical), two semesters of Physics, and four semesters of math (three semesters of calculus and one semester of differential equations) must also complete these courses. In some cases, additional requirements will be prescribed. In exceptional cases, some of the above requirements may be waived on the demonstration of prior proficiency. Most Chemistry, Biochemistry, and Physics majors will have taken these courses.

\*\*In all undergraduate courses required for the removal of limited status, a grade of B or better is required. When the prescribed requirements have been satisfactorily met, the student must apply for a change of status to full standing with the Director of Graduate Studies (DGS). In case a limited standing student has a GPA of 3.0 or more and has received a grade lower than B in any of the above courses; the student may request a change to full status after the completion of 12 hours of graduate coursework counting toward the engineering degree with a GPA of 3.5 or more.

For more information, visit: https://che.uic.edu/graduate-studies/

# Advising

Upon admission to the graduate program, a student is assigned a temporary faculty advisor or contact person. The temporary advisor will assist the student during his first semester of registration and acquaint him with the various rules, regulations, and procedures of the Department. A Ph.D. student must select his/her degree (permanent) advisor not later than the sixth week of the first semester of his program, and a Ph.D. student by the eleventh week of the first semester after entering the program. Students are required to consult all the faculty members by the ninth week of the first semester before deciding on their M.S. or Ph.D. thesis advisor and research topic. After this selection is made, the student must inform the DGS of his/her choice in writing, and this should also show the agreement of the student's selected advisor. If an M.S. or Ph.D. student fails to meet all the faculty members and select a permanent advisor(s) before the required dates, the student may not be eligible for the financial support in the following semester.

An advisor may indicate at any time that a student will no longer be retained under the advisor's supervision. In this case, the advisor must inform the student and the DGS in writing. Should a student desire to end the association, he must similarly inform the advisor and the DGS. If the student is in good standing, the Graduate Committee, in consultation with the Department Head, will advise the student on the selection of a new advisor.

# **DEGREE PROGRAMS**

# **Curriculum and Procedures**

Master of Science

Thirty-six semester hours are required for the M.S. degree. Degree requirements for both the thesis and project options for the M.S. degree are shown in the table on the following page. The thesis option involves more research, one elective course is added to the five required courses, and 12 hours of ChE 598 can be counted toward the degree (for a total of 36 hrs), and the thesis must be defended orally before a thesis defense committee. Under the project option, four hours of credit is given for ChE 597 (Project Research), an additional two elective courses are taken, making three elective courses, and the student is required to give an oral presentation of the project report to a panel of three faculty members who will judge whether the work is sufficient for the degree. A third Course-Only option for the M.S. is available. In this case, all 16 credit hours beyond the required courses are elective courses. These courses are chosen with the advisor, and a written justification for an area of emphasis or a particular course of study must be submitted with the Course Approval Form.

Elective courses pertinent to a student's research may be taken outside of the Department or college, in consultation with the advisor and with the approval of the graduate committee via the course approval form. The course approval form should normally be completed during the second semester, but can be updated when necessary.

A timetable to assist the student in implementing the Master of Science Program is given on the next page.

Required Courses:					
ChE 501 or 502 (Advanced Thermodynamics) 4			4 hrs		
ChE 510, 511 or 512 (Separation Processes)			4 hrs		
ChE 520 (Transport Phenomenon)			4 hrs		
ChE 527 (Reaction Engineering)			4 hrs		
ChE 531 or 545 (Advanced Mathematics)			4 hrs		
	,	subtotal:	20 hrs		
Thesis Option		Project Option			
Elective course #1	4 hrs	Elective course	#1		4 hrs
Thesis Res. (ChE 598)	<u>12 hrs</u>	Elective course	#2		4 hrs
	total:36 hrs	Elective course	#3		4 hrs
		Proj. Res. (ChE	597)		<u>4 hrs</u>
		<b>.</b> .	,	total:	36 hrs

# M. S. Course Sequence (36 hrs)

#### *Timetable*

1. You must select a degree advisor not later than the sixth week of the first semester of your M.S. program. An advisor selection form is shown in Appendix 1. This and most other forms can be obtained from the Graduate Secretary in the main office, room 216 CEB.

2. In consultation with your advisor, you will complete the course approval form and, with your advisor's signature, submit this form through the DGS to the Graduate Committee for approval not later than the sixth week of the second semester of M.S. candidacy. A copy of the course approval form is given in Appendix 2. Students pursuing the Course-Work-Only option must also submit a written justification for the selection of elective courses.

3. Each M.S. student's permanent advisor will recommend a Thesis Committee to the Department Head, nine weeks before the examination date. The committee consists of at least three members, two of whom must have permanent membership on the Graduate Faculty. One member of the committee may be from outside the Department or even from outside the university. Approval of the thesis by all but one member of the committee is required. Any delay in the submission of forms may result in a delay in the award of the degree.

4. For thesis M.S. candidates, the defense of the thesis must be conducted in accordance with the limits set by the Graduate College. For project M.S. candidates, approval of the project report by the three-faculty panel must be obtained not later than the thirteenth week of the semester in which the student is seeking credit in ChE 597. The student's M.S. Thesis should be submitted to the Thesis Committee at least two weeks prior to their defense.

5. A typed bound copy of the thesis or ChE 597 project report must be filed with the Graduate Committee, in addition to the copies required by the Graduate College. Check with the graduate secretary for detailed requirements.

# Master of Science (Thesis, Project, and Course-Work-Only Options)

If you are working for the M.S. degree and choose the research project option, you must enroll in ChE 597 for a maximum of 4 semester hours. No more than 4 semester hours will be credited in ChE 597 for the Master's project. A typed copy of the ChE 597 project, approved by the three-faculty panel, must be filed for the Departmental Library by the thirteenth week of the semester in which you are seeking credit.

If you are working for the M.S. degree and choose the thesis option, you will enroll in ChE 598 for at least 4 hours per semester. No more than 12 semester hours will be credited in ChE 598 for the Master's thesis. A copy of the approved thesis must again be filed with the Department.

If you are working for the M.S. degree and choose the course-work-only option, there is no special course required beyond the 5 core courses.

# Doctor of Philosophy

A total of 108 hrs are required for the Ph. D. degree in chemical engineering, of which 60 are research hours (ChE 599 - Ph.D. Thesis Research) and 48 are coursework. Course outlines for students entering with B.S. and M.S. degrees are sketched in the tables on the following page.

For Ph.D. students entering with a B.S. degree, 24 hours of the 48 hours of course work will be the six required courses, 8 hours of credit must be earned in advanced math courses, which are either ChE 531 and 545. Ph.D. students entering with a B.S. degree and TA support are required to take at least three core chemical engineering courses (12 credit hours) and the departmental seminars in their first semester. Students entering with an M.S. should not repeat courses similar to prior courses. Prior courses can fulfill the above requirements, although these hours must be replaced by taking approved electives. If for example, all six required chemical engineering and both math required courses have been taken previously, you would take 24 elective hours. Ph.D. students entering with an M.S. degree and TA support are required to take at least 12 course credit hours and the departmental seminars in their first semester.

If a Ph.D. student fails to take the required courses, secure a good academic standing with a GPA at or above 3.0, and perform to acceptable standards in the teaching assistantship duties in his/her first semester, the student will not be eligible for the financial support from the Department in the following semester. In exceptional circumstances, the student may be exempted from taking the required courses with the approval of the Director of Graduate Studies.

Within three years after formal admittance to the Ph. D. program (students admitted on limited standing have three years from the date they are accepted at full standing), candidates must also take a Ph. D. Preliminary exam. This exam is composed of a written report including a literature search, statement of research objective, proposed research project, and any preliminary results. The candidate will give an oral presentation of this report to the thesis committee. The Ph. D. Thesis Defense cannot be taken for at least one year after the Ph. D. Preliminary Exam is successfully completed. Students are allowed two opportunities to take the Preliminary Exam. If a student fails on both attempts, the student will not be allowed to continue in the Ph. D. program.

A major requirement of the Ph.D. program is the completion of a thesis based on original research carried out under the supervision of your advisor and defended during a final oral examination before the Thesis Defense Committee, with the Advisor serving as its Chairman. The Advisor and the members of the committee normally will decide to hold the oral defense when they are satisfied in principle with the research. The committee may accept the thesis, reject it, or impose conditions requiring that major or minor changes be made.

Required Courses:	
ChE 501 or 502 (Advanced Thermodynamics)	4 hrs
ChE 510, 511 or 512 (Separation Processes)	<u>4 hrs</u>
ChE 520 (Transport Phenomena)	4 hrs
ChE 527 (Reaction Engineering)	4 hrs
ChE 531 (Numerical Methods in Chemical Eng)	4 hrs
ChE 545 (Mathematical Methods in Chemical Eng)	4 hrs
subtotal:	24 hrs
Elective Courses:	
Elective course #1	4 hrs
Elective course #2	4 hrs
Elective course #3	4 hrs

#### Ph. D. Course Sequence (108 hrs) - From B.S. degree

	Elective course #4		4 hrs
	Elective course #5		<u>4 hrs</u>
	Elective course #6		<u>4 hrs</u>
		subtotal:	24 hrs
Research:	Ph.D. Thesis Res. (ChE 599)		60 hrs
		grand total:	108 hrs

# Ph. D. Course Sequence (108 hrs) - From M.S. degree

	Credit for M.S. degree		32 hrs	
Required or E	Elective Courses*:			
	Course #1 (500 level)		4 hrs	
	Course #2 (500 level)		4 hrs	
	Course #3		4 hrs	(Note: At least 8
	Course #4		4 hrs	hrs. required at
	Course #5		4 hrs	500 level)
	Course #6		<u>4 hrs</u>	
		subtotal:	24 hrs	
Research:				
	Ph.D. Thesis Res. (ChE 599)		<u>52 hrs</u>	
		total:	108 hrs	

• Courses taken for the prior degree may be counted for required courses, including the math requirement. Their similarity to the required courses must be demonstrated on the course approval form.

Admission to the Ph.D. program is not automatic for those completing the M.S. Degree at University of Illinois Chicago. A student desiring to continue graduate study in the Department of Chemical Engineering beyond the M.S. level must apply in writing to the Graduate Committee for admission to the Ph.D. program.

Current M.S. students in the Department of Chemical Engineering may apply for admission to the Ph.D. program. At least three core courses at UIC for a minimum grade point average of 3.5/4.00 will be required before an application will be processed.

There is no foreign language examination requirement for the Ph.D. degree in the Department of Chemical Engineering.

A timetable to assist the student in implementing their Ph.D. program is given below.

# Timetable

1. Application for admission to the Ph.D. program in the Department may be submitted through the Office of Admissions and Records at any time. For UIC M.S. graduates, the application should either be made before the thirteenth week of the first semester after completion of the M.S. degree or during the thirteenth week of the fourth semester of the M.S. program, whichever is earlier.

2. The student must select a degree advisor no later than the eleventh week of the first semester following admission to the Ph.D. program. An advisor selection form is shown in

Appendix 1. The student's temporary advisor will conduct initial advising, including the first-semester course enrollment and details of settling into the program.

3. In consultation with the degree advisor, the student will organize a preliminary exam committee. All the necessary paperwork for the Graduate College must be submitted. A written report should be given to the committee at least two weeks before the oral exam. Upon successful completion of the preliminary examination, the student is formally admitted to Ph.D. candidacy.

4. In consultation with the degree advisor, the student will propose a list of a minimum of 48 credit hours of graduate courses and, with the advisor's signature, submit the list through the graduate secretary to the Graduate Committee for approval by the end of the third semester after admission to the Ph.D. program. A blank course approval form is shown in Appendix 2.

5. The student's Thesis Defense Committee is nominated by the student upon consultation with the advisor and must be approved by the Graduate Committee, who will then make a recommendation to the Graduate College. The Graduate Dean formally appoints the nominated Thesis Defense Committee. The student's Ph.D. thesis should be submitted to the committee at least two weeks before the scheduled date of the defense. The time limit for the defense, for graduation in a particular semester, is set by the Graduate College. The Department's graduate secretary will have these deadlines as well as graduation request forms.

6. The student must file one bound copy of the Ph.D. Thesis with the Department graduate office in addition to those normally required by the Graduate College.

# M.S./Ph.D. Thesis Defense Committees

The M.S. Defense Committee consists of three members, at least two of whom must be permanent members of the Graduate Faculty. The committee reports its recommendations in writing through the Head of the Department to the Dean of the Graduate College. The Committee vote is pass or fail, and it may require that prescribed conditions be met before a pass recommendation becomes effective. The Dean, on the recommendation of the committee, may then permit a second thesis defense.

The Ph.D. Defense Committee consists of four or more members, at least three of whom must be permanent members of the Graduate Faculty. These are the same requirements as for the Preliminary Exam Committee and members, although the committee members may be substituted. The committee reports its recommendations in writing through the Head of the Department to the Dean of the Graduate College. The Committee vote is pass or fail, and it may require that prescribed conditions be met before a pass recommendation becomes effective. The Dean, on the recommendation of the committee, may then permit a second thesis defense.

# Instructions for Preparation of Preliminary Exam Report

This report should contain a literature search, a statement of the proposed research including details on how the work will be carried out and what the expected impact of the work

will be, any preliminary data or results already obtained by the student, and a plan for the completion of the proposed thesis research. The committee members grade the exam pass or fail based on the candidate's demonstrated ability to undertake research sufficient to complete the Ph.D. degree and the quality of the proposed research. Note that there is a Graduate College requirement that one full year must elapse after completion of the Preliminary Exam before the Thesis Defense can be taken.

#### Instructions for Preparation of Thesis

The <u>Thesis Manual</u> (http://grad.uic.edu/thesis) was prepared by the Graduate College to provide guidance for the student and advisor in the formal preparation of the thesis and should be consulted before the student begins compiling the document. While there are a number of format and presentation requirements that should be followed, the Graduate College allows for deviations for accepted disciplinary manuscript practices, and the guidelines allow flexibility for many of these deviations. Consult the manual for more information, and also consult with your advisor and Department. A checklist is provided in the back of the Thesis Manual, and it should be carefully reviewed.

#### **Departmental Seminars**

The Department of Chemical Engineering organizes a number of seminars each academic year, and graduate students are **required** to attend these seminars to receive the credit. An attendance record will be kept by the seminar coordinator and will be presented to the Graduate Committee. Absence from seminars without reasonable cause is a violation of departmental requirements and can constitute a deficiency in the student's record towards graduation. Note that up to 4 hrs of graduate credit can be earned, one hour per semester, for ChE 595 (Seminar in Chemical Engineering Research), which is separate from the departmental seminar series. This course is coordinated by an individual faculty member and normally involves seminars presented by graduate students within a research group or conglomeration of research groups.

#### **Miscellaneous Procedures**

#### Application for Graduation (M.S. or Ph.D.)

The university uses an automated process for graduating students called the Pending Degree List. All students (undergraduate, graduate, professional, and Advanced Dental) must submit a Pending Degree List form electronically using the process below. Please read these directions carefully.

The Pending Degree List form may be submitted starting the semester before your graduation semester until the Friday of the third week of the fall and spring semester or the second week of the summer semester.

#### **Pending Degree List Steps:**

- 1. From the menu in <u>Student Self Service</u> select Graduation Information **Note:** The Pending Degree List form is available during the registration period for the term through the 3rd week (2nd week in summer).
- 2. Click on Notify Intent to Graduate This Term
- 3. Select your graduation term and click on submit.
- 4. Select the degree period listed and click on submit.
- 5. Verify the major/graduate program, graduate concentration, undergraduate minors listed on the Add Pending Degree web page.
- 6. If any of the information is incorrect, click on help for specific instructions on how to enter the correct information in the text box.
- 7. Click on submit.
- 8. Print the confirmation page for your records.
- 9. A confirmation email will be sent. Note: At the bottom of the confirmation page, there will be a message about the confirmation email (sent to xxxx@uic.edu or could not be sent).
- 10. From the menu in Student Self Service select Personal Information and create a "Diploma Address".

**Note:** All upcoming graduates must create a Diploma Address; failure to do so could delay the receipt of your diploma.

It is primarily the student's responsibility to ensure that all such requirements have been satisfied.

#### **Petitions**

Students desiring a waiver or a variation of Department or Graduate College regulations must apply by petition. "Graduate Student Petition" forms may be obtained from the Graduate Secretary. A sample form is given in Appendix 3. The individual request must be clearly and fully stated, the form completed and signed by the student, then endorsed by the student's advisor. Completed petitions are submitted to the Graduate Committee for their consideration. Certain petitions (e.g., application for transfer of credit, application for a leave of absence, and application for an off-semester vacation) require special forms and procedures. Whenever further information is needed on any of these matters, the student should consult the DGS or the Graduate College catalog.

#### Transfer of Graduate Coursework

Consideration will be given to the transfer of graduate work completed in other accredited institutions. The limit on transfer credits is set by the graduate college, which in general, is 25% of the required hours for the degree. No transfer is automatic; credit earned by an irregular undergraduate student or non-degree graduate student is not transferred if the student is later admitted to the Graduate College in a degree program. Only graduate work that meets at least the

quality and content criteria of courses offered at University of Illinois Chicago is acceptable. Consideration is given to the transfer of credit in three categories:

- a. Graduate work completed elsewhere before admission to UIC and for which a degree was not awarded.
- b. Graduate work completed elsewhere after admission to UIC and for which a degree was not awarded. A student considering taking graduate work elsewhere during a Leave of Absence or Off-Semester Vacation should consult his/her advisor and the Director of Graduate Studies about rules and about courses that could be accepted for transfer.

c. Graduate work completed in the senior year at UIC that was not applied to the baccalaureate.

The petition form, "Graduate Petition for Credit Toward an Advanced Degree," is included in Appendix 4.

# **Continuation and Probation Rules**

Students may continue to register as long as they remain in good standing, herein defined as satisfactory progress and achievement, and satisfactory behavior within the code of conduct described in the Student Handbook. The minimal Graduate College academic criterion is that a student must maintain a cumulative grade point average of at least 3.0/4.00 on all work taken at UIC as a graduate student. Two separate averages are computed: (a) on all courses (100-400 levels); and (b) on graduate courses alone (400-500 levels). A minimum GPA of 3.0/4.00 is required in each group. Transfer and extension credit is not computed in the cumulative GPA.

1. If, during two successive terms in residence, the cumulative GPA is below 3.0/4.00 as defined above, the student is placed on probationary status. This is a warning that if the student's academic record continues to be unsatisfactory, permission to register may be denied.

2. After three consecutive terms in residence with a cumulative GPA below 3.0/4.00 as defined above, the student will not be eligible for further registration.

# **Off Semester Vacation**

A student may elect to attend any two terms in one calendar year. If a term other than the summer is chosen for vacation, an application for off-semester vacation must be filed with the Office of Admissions and Records before the first day of instruction of the term to be used for this purpose. Application blanks are available from the Graduate Secretary. If the vacation term is other than the summer session, the student must attend the summer session of that calendar year to maintain continuing student status.

A student approved for an off-semester vacation is entitled to the same privileges as continuing students, provided correct procedures are followed. If advanced enrollment is desired, written notice to the Office of Admissions and Records must be presented before the time for

mailing advanced enrollment materials to continuing students. Advanced enrollment materials are prepared and mailed during the ninth week of the term. Arrangements can be made with the Insurance Office to continue hospital-medical-surgical insurance during the off-semester vacation.

# FINANCIAL AID

#### **Research and Teaching Assistantships**

There are three forms of financial aid: Fellowships, Assistantships (Research and Teaching), and Tuition-and-Fee Waivers. Research assistantships are assigned by a particular faculty member from their own research funding on an individual basis and are generally given to students of longer tenure who are more disposed to perform in-depth research. Teaching assistants normally aid professors in large courses by handling laboratory and discussion sections and grading papers. With rare exceptions, students can hold a teaching assistantship for no more than four semesters.

The criteria for assigning teaching assistantships are as follows:

1. Teaching assistants are expected to be competent in the course to which they are assigned. This is generally based on their academic qualifications.

2. In selecting the assignment of teaching assistants, the Department asks the selected T.A.'s to express their preference for courses they would like to teach. This is done through the letter mentioned above of the application. The Department makes every effort to make the assignments according to these preferences.

3. The ability to communicate well is especially important in laboratory and discussion courses, so every attempt is made to assign only students with above-average communication skills to such courses. International TA's are required to pass a test for oral English proficiency administered by the ITA English Proficiency Program (Vandana Loomba Loebel, 312-413-2235, vloomba@uic.edu). The oral English proficiency test is given during the two weeks preceding the fall semester and at other times during the year.

4. The Department evaluates T.A. performance on a semester basis, and the continuation of the assignment is contingent upon satisfactory results in such evaluations. Assistantships are normally granted at the level of 50%, which is considered "full support." That is, the student, in theory, allows 50% of a workweek (20 hours) to the assignment. (Attending classes, in theory, accounts for the other 50% of the time.) Incoming students supported by TAs must take at least three classes within the chemical engineering department for each of their first two semesters unless no suitable courses are offered, or their assistantship will be withdrawn. The DGS must be petitioned by the student and their advisor for an exception to this rule. Receipt of a 50% TA or RA includes tuition and fee remission, and the tuition and fee waiver will continue through the summer even if the Assistantship does not, as long as a TA or RA has been received in the spring semester of the preceding academic year.

# **Tuition and Fee Waivers**

Waivers are awarded by the Graduate College, not by the Department. As with University Fellowships, the competition is University-wide. The Department submits the names of students (the number not to exceed 10% of total graduate student enrollment) who are unlikely to receive another form of financial aid. It has been this Department's experience that no more than four

students are initially awarded waivers, and perhaps one more student may receive a waiver sometime later in the year. As mentioned above, if an assistantship has been received in the spring semester, a waiver will carry through the summer.

Students given tuition and fee waivers, including teaching and research assistantships, must register for at least 8 hours of credit during the fall and spring semesters and three hours during the summer semester.

The Graduate Committee continuously reviews the record and progress of every graduate student. All appointments are conditional on satisfactory performance.

#### National, State, and University Fellowships

Graduate fellowships are awarded both to incoming students, as a recruiting tool, and to encourage outstanding continuing students to pursue Ph. D. research. They are awarded by the Graduate College (not by the Department), or by other agencies outside the university. Fellowship applications have periodic deadlines and are filled out in concert with the student's research advisor and the DGS. A student can apply to any Fellowship for which the conditions are met; if more than the allotted numbers of applications are received for a particular fellowship, the Graduate Committee decides which are sent in. A general calendar of currently available fellowships and their approximate monthly deadlines can be found at the Graduate College website or you may visit <a href="http://grad.uic.edu/cms/?pid=1000893#alf">http://grad.uic.edu/cms/?pid=1000893#alf</a> for more information and deadlines. (Deadlines will be posted and updated throughout the year.)

#### **Office contact information:**

Benn Williams Interim Fellowships Coordinator Assistant Director of Interdisciplinary Programs and Development Graduate College University of Illinois Chicago 614 University Hall, MC 192 601 South Morgan Street Chicago, IL 60607

T: 312.413.2389 F: 312.413.0185 E: bwilli7@uic.edu

#### **GENERAL INFORMATION**

#### Suggested courses for 1<sup>st</sup> Fall semester of graduate students

ChE 520 (Transport Phenomena)	4 hrs
ChE 545 (Mathematical methods)	4 hrs
ChE 501 (Advanced Thermodynamics)	4 hrs
Elective course #1	1- <u>4 hrs</u>
ChE 595 (Seminar in Chemical Engineering Res)	<u>1 hrs</u>
subtotal:	14-17 hrs

ChE 595 (Seminar in Chemical Engineering Res) are required for the first semester of all new graduate students and the course must be registered under Professor Vivek Sharma.

# **GRACE/CHEGSA**

The Chemical Engineering Graduate Student Association (CHEGSA) was founded in January of 1987. The goals of this organization were formulated by graduate students and can be divided into three major categories. First, in order to create and maintain a warm and friendly atmosphere in the Department, CHEGSA plans frequent social and athletic events such as parties and tournaments. Second, to enhance communication and information sharing among various research groups in the Department will organize informal research presentations. Finally, CHEGSA is the voice of our graduate students in the Department and will protect their interests in all matters. Since its establishment, CHEGSA has been able to win the enthusiastic support of both the graduate students and faculty and has now become an integral part of the chemical engineering department. The graduate students consider CHEGSA as a major factor in making their stay in this Department a more fruitful and fulfilling experience. In recent years the association has been more widely referred to at the GRaduate Association of Chemical Engineering (GRACE).

# Housing

University of Illinois Chicago has residence halls available to graduate students both on the east side of campus and at the Health Sciences Center. The residence halls on the eastside campus are located at the corner of Halsted and Harrison. For housing at the Health Sciences Center, the intercampus shuttle bus offers direct service from residence halls to the entrance of CEB. In both residences, meals are served in adjoining cafeterias and a wide range of recreational and social opportunities are available within the residential complex. For further information contact:

Campus Housing; 818 S. Wolcott Ave.; Ste. 220, Chicago, IL 60612; (312) 355-6300 or visit the Campus Housing website: <a href="http://www.housing.uic.edu">www.housing.uic.edu</a>

If the University Residence Hall is not a solution for you, contact the UIC Housing Service Office, 704 Student Center East (6-5055). Notices of vacancies, roommates wanted, etc., are

posted on the bulletin board on the first floor near the main entrance of CCC. Students are encouraged to check the Chicago Tribune and the Sun-Times for further housing information.

#### **Transportation**

University of Illinois Chicago is well served by public and University transportation. A shuttle bus runs every twenty minutes between the Health Sciences Center and the Chemical Engineering Building (CEB). If you drive to school, you can obtain a parking lot key card. The Parking Office is located at 1100 S. Wood St., Room 122 WSPS (3-5800).

The Chicago Transit Authority has a rapid-transit station just north of the campus, on the median strip of the Eisenhower Expressway. There is also a station on Clinton Street, three blocks north of CEB. The trains are on the Congress-Douglas line and can get you to downtown Chicago in three minutes. There are five bus routes that serve the campus, on Harrison, Halsted, Taylor and Roosevelt Road. Many commuter trains stop at Northwestern Station (Clinton and Madison) and Union Station (Clinton and Jackson). Both stations are within walking distance from the campus; however, there is also a University-sponsored shuttle bus, which operates mornings and afternoons. The parking office (709 SCE) has a schedule for the shuttle. Coupons for the Shuttle (for 25 rides) can be obtained from the cashier's office (220 SCE).

Since the commuter shuttle bus only runs in the AM and PM rush hours, it is possible to take the subway from the Clinton subway stop and get off at the U of I/Halsted stop at other times.

#### Health Services, Counseling, and Insurance

The University Health Services is located at 835 S. Wolcott Ave., Room E-144, (6-7420) has an outpatient clinic for students for the treatment of minor illnesses, injuries, immunizations, etc. *CampusCare* is an affordable self-funded student health benefits program that has been providing comprehensive health care benefits to eligible enrolled students and their covered dependents. Please visit the website for more information on *CampusCare* coverage: https://campuscare.uic.edu.

The UIC Counseling Center located at SSB, Suite 2010, 1200 W. Harrison (6-3490), is a primary resource providing comprehensive mental health services that foster personal, interpersonal, academic, and professional thriving for UIC students. The Speech, Language, and Hearing Clinic, is also located in SSB.

#### Athletic and Recreational Activities

The Student Center East (SCE) has an art gallery, a crafts workshop, a music lounge, television rooms, as well as facilities for swimming, rifle practice, table tennis, bowling, handball, weight lifting, dance, golf, archery, and racquetball. For information on recreational activities call ext. 3-5040.

If you want more organized activities, there are intramural programs in badminton, basketball, bowling, fencing, handball, racquetball, softball, squash, swimming, tennis, touch football, track, volleyball, and water polo. Information can be obtained from room 149 of the Physical Education Building, ext. 6-5164.

The Intercollegiate Athletic Program has moved into Division 1A, does well, and deserves your support.

#### **Bookstores**

The main University Bookstore is on the ground floor of SCE. There is also a small shop in the basement of BSB and a general bookstore on the first floor of SCE; medically oriented books can be obtained at the bookstore at the Health Sciences Center. General scientific books are also available in a variety of city bookshops, most notably Barbera's Bookstore on Roosevelt Road.

# **MISCELLANEOUS USEFUL INFORMATION**

*Check Cashing*: Cashier's Office is on the second floor, main lobby of SCE (\$75 limit). There is a \$.25 charge. The other cashier's office is located in the Marshfield Avenue Building (MSB), 809 South Marshfield (Marshfield and Polk Streets), first floor, check cashing (\$200 limit). There is no charge. You must present your UIC student ID card.

#### Lost & Found:

- SCE, 1st floor, 750 S. Halsted St. (312-413-5100, 312-413-5130)
- Student Services Building, 1st floor, 1200 W. Harrison St. (312-413-5000

• Student Center West, 1st floor, 828 S. Wolcott Ave. (312-413-5200) Also, you can check with the Chemical Engineering Office, 216CEB.

*Day Care*: Contact information: UIC Children's Center, 1919 W. Taylor St., Rm 116 M/C 525, Chicago, IL 60612, Ph: 312-413-5326, Fax: 312-413-5329, Email: <u>uicchildcenter@uic.edu</u>, website: <u>http://childrenscenter.uic.edu/westsite.shtml</u>

*Blood*: To donate blood, please visit the following website: <u>http://hospital.uillinois.edu/Patients\_and\_Visitors/Visiting\_a\_Patient/Donate\_Blood.html</u> or call ext. 6-6970 for more information and/or schedule to an appointment.

*I-Card*: All students must obtain a UIC photo ID. The ID Center is located at SSB, 1200 W. Harrison St., Room 1790 and is open Monday-Friday between 8:30 am - 5 pm.

#### **APPENDIX OF FORMS**

Samples of various forms you may need are given in the following appendix. The Graduate Secretary has originals of all these forms.

- Appendix 1. Advisor Selection Form (page 23)
- Appendix 2. Course Approval Form (page 24-25)
- Appendix 3. Graduate Student Petition Form (page 26)
- Appendix 4. Graduate Petition for Credit Toward and Advanced Degree (page 27)
- Appendix 5. Tuition Fee Waiver Application Form (page 28)