DePaul University

Department of Chemistry

Handbook

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1 – Introduction

1.1 – Welcome

Welcome to the Department of Chemistry at DePaul University! This handbook has been assembled to help current students and those interested in learning more about the department's programs and curricula navigate the sometimes-complex nature of completing a degree at a modern university. Whether you are wondering how to declare your major, thinking about what classes you will need to take next year, or want to know about certain departmental policies and procedures, this handbook should be able to provide you with the help and answers you seek. If not, it should at least be able to point you to someone who will be able to help you out. Every effort has been made to provide you with the latest, up-to-date information about the department, its curriculum, and its policies and procedures. Changes in these any of these areas can occur at any point during the year and will be posted as soon as possible to the online version of this handbook located here. If you happen to notice any errors in the handbook, or would like to suggest additional material to include in it, please send a message to chemistry@ depaul.edu.

1.2 – Mission

The mission of the Department of Chemistry is to educate students in the theory and ethical practice of chemistry within the framework of the scientific method, and to provide students with a context for appreciating the history of chemistry and its applications within society.

2 – Faculty, Staff, and Students

2.1 – Advising expectations for faculty and staff

All full-time, tenured and tenure-track faculty are expected to serve the department as academic advisors to majors and minors. In carrying out this role, faculty members are expected to:

- Know the degree requirements for every academic track offered by the department.
- Have a working knowledge of the Liberal Studies Program.
- Know whom to contact when an advisee's question cannot be answered.
- Have a working knowledge of basic advising tools such as the Degree Progress Report (DPR), the Unofficial Transcript Report, and the Advising Center dashboard.
- Make contact with each advisee once every quarter.
- Maintain accurate records of each advising encounter.

As you can see, in meeting the expectations above, your academic advisor should be able to answer any questions related to the curriculum options within the department in addition to general questions about the Liberal Studies Program. Many faculty members are also comfortable with talking about non-academic issues such as research and post-graduation career options. Your academic advisor is there to help you navigate through your undergraduate studies – make good use of his or her expertise!

Visiting faculty, part-time faculty, and full-time staff members are not assigned as academic advisors because department service in the form of academic advising is not part of their job responsibilities. However, these faculty and staff members can take you on as an advisee if they so choose. In doing so, they are bound by the advising expectations listed above.

2.2 – Advising expectations for students

Effective advising is a two-way street, not only requiring careful guidance on the part of knowledgeable faculty and staff, but diligent preparation on the part of the student as well. Each student is expected to:

- Be familiar with the degree requirements for his or her current academic track.
- Be familiar with the basic requirements of the Liberal Studies Program.
- Have a working knowledge of basic advising tools such as the Degree Progress Report (DPR) and the Advising Center.
- Know how to contact his or her advisor.
- Make contact with his or her advisor once every quarter.
- Be on time for meetings with his or her advisor and bring along relevant materials such as updated credit evaluation sheets and unofficial transcripts.
- Notify his or her instructor if an advising meeting needs to be cancelled.

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2.3 – Initial departmental academic advisor assignments

The department is usually notified of new majors and minors by the college office. Upon notification, the department assistant assigns students to faculty advisors on a rotating basis. This method attempts to provide all faculty advisors with even advising loads. Once you have been assigned to an advisor, the department assistant will send an electronic notification to you and your new advisor to let you both know that the assignment has been made. Assignments of advisees to visiting faculty, part-time faculty, or staff members should be made only after consultation with the department chair.

Effective September, 2012, all incoming first-year chemistry majors will be assigned to a staff advisor in the College of Science and Health's Office for Advising and Student Support (OASS). The department will work cooperatively with OASS staff to coordinate advising-related activities through the first year. Chemistry majors will be assigned to faculty advisors before the start of their second year as described above. This change does not apply to newly transferred chemistry majors.

After you receive your assignment, make plans to introduce yourself to your departmental academic advisor as soon as possible. Regular contact with your advisor is strongly encouraged in order to seek advice on course selection, even if you may already know what courses you should take. You should ideally meet with your academic advisor a week or two before registration for the next academic session begins.

If you lose your advising assignment notification, you can easily find out who your academic advisor is. Simply log on to Campus Connection, click on **For Students**, and then click on **View My Advisors**. Note that you may have more than one academic advisor available to you and your departmental academic advisor may not be listed first.

2.4 – How to contact your departmental academic advisor

The best way to contact your academic advisor is through e-mail with a specific subject line (e.g. "Request for an advising meeting"). Some items to mention in any electronic message to your advisor include the reason for the contact and if a meeting is desired, the times you are available to meet. Many academic advisors maintain office hours during which you may drop by to say hello and perhaps schedule a time for a meeting. Office hours for faculty are available on the web; they are also posted on the bulletin board in the main office. To determine who your departmental academic advisor is, log in to Campus Connection, click on **For Students**, and then **View My Advisors**. This web page should contain the contact information you seek. If not, you can find your departmental academic advisor's e-mail address or office number in Table 2.1. These data are also available on the web here and here.

2.5 – How to change your departmental academic advisor

As mentioned above in section 2.2, departmental academic advisors are assigned on a rotating basis. These assignments are not permanent and may be changed if you wish. For example, if you begin working in a faculty member's laboratory, you may want to switch your academic advisor to your research mentor. To switch your academic advisor, you may contact the department assistant or send your request electronically to chemistry@depaul.edu. Once the switch has been made, the department

assistant will electronically notify you, your previous advisor, and your new advisor that a new advising assignment has been made.

| Full-time faculty | | | | |
|--------------------------|------------------|---------|-------|-------------------------------|
| Name | Specialty | Office | Phone | e-mail |
| Dr. Sandra Chimon-Peszek | Bioanalytical | AJM100A | 57473 | speszek@depaul.edu |
| Dr. Lihua Jin | Biochemistry | AJM314A | 57371 | ljin1@depaul.edu |
| Dr. Caitlin Karver | Medicinal | AJM321D | 57365 | ckarver@depaul.edu |
| Dr. Gregory Kharas | Polymers | AJM314C | 57367 | gkharas@depaul.edu |
| Dr. John Kozak | Chemical physics | CDM452 | 28876 | kozak@depaul.edu |
| Dr. Justin Maresh | Biochemistry | AJM314B | 57891 | jmaresh@depaul.edu |
| Dr. Richard Niedziela | Physical | AJM100D | 57307 | rniedzie@condor.depaul.edu |
| Dr. Ruben Parra | Computational | AJM330A | 54343 | rparra1@depaul.edu |
| Dr. Quinetta Shelby | Inorganic | AJM309A | 57402 | qshelby@depaul.edu |
| Dr. Cathrine Southern | Physical | AJM321B | 57453 | csouthe2@depaul.edu |
| Dr. Wendy Wolbach | Analytical | AJM319 | 54262 | wendywolbach@gmail.com |
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| Dr. Stephanie Boussert | Biochemistry | AJM321C | 58008 | sbousser@depaul.edu |
| Dr. Timothy French | Physical | AJM321A | 57322 | tfrench4@depaul.edu |
| Part-time faculty | | | _ | |
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| Dr. Ahmed Lakhani | | AJM100E | 58633 | alakhan3@depaul.edu |
| Mr. Michael Rosenbaum | | AJM100E | 58633 | mrosenba@depaul.edu |
| Dr. Richard Schraufnagel | | AJM100E | 58633 | rschrauf@depaul.edu |
| Mr. Tom Speltz | | AJM100E | 58009 | Tspeltz99@gmail.com |
| Dr. Raymond Tse | | AJM100E | 58009 | |
| Dr. Wayne Whipple | | AJM100E | 58633 | Whipple.Wayne@epamail.epa.gov |
| Mr. Matthew Zuziak | | AJM100E | 58633 | Matthew.zuziak@gmail.com |
| Full-time staff | | | | |
| Mr. Anthony Arena | Lab manager | AJM316 | 57368 | aarena@depaul.edu |
| Ms. Nicole Hack | Dept assistant | AJM100 | 57420 | nhack@depaul.edu |
| Mr. Massimo Pacilli | Lab manager | AJM317 | 58016 | mpacilli@depaul.edu |

Table 2.1: Faculty and staff contact information.

3 – Undergraduate Students

3.1 - Intake advising

Students who are new to DePaul usually participate in one of two intake-advising programs. New firstyear undergraduates go through an intensive summer-time program called Premiere DePaul. Transfer students participate in a smaller-scale program known as Transfer Transition. Regardless of which program a student participates in, he or she will spend time with an intake advisor who will assist the student in assembling a course schedule for his or her first academic session at DePaul.

3.1.1 – Premiere DePaul

The Premiere DePaul program is designed to provide new first-year DePaul students with a two day, immersion-like introduction to the university. The program includes topics regarding life on campus, how to navigate through various administrative offices, and most importantly the academic life of the student. Prior to attending a Premiere DePaul session, a student must complete a mathematics placement examination and a writing self-assessment process. The mathematics placement and writing assessment results are used during academic advising to start charting a course of study for the following autumn quarter.

The academic advising portion of each Premiere DePaul session is split into two parts. During the first part, a student is paired with a faculty or a staff advisor from the college. If a student enters DePaul with a declared major, every attempt is made to assign the student to a faculty advisor from the major field. If such an advisor is not available, an academic advisor from an allied field is usually assigned to the student. A randomly selected faculty or staff advisor is assigned only when the first two types of assignments are not possible.

The student and his or her advisor spend time together in a holistic setting discussing possible courses for the upcoming term and other academic-related issues. When the meeting with the advisor is over, the student then proceeds to a registration area that is staffed by personnel from the college office. This part of the advising period is meant to show students the more logistical side of enrollment requirements.

3.1.2 – Transfer Transition

Unlike traditional first-year students, transfer students get a short, abbreviated introduction to the university in a session that is conducted by staff members in OASS. Immediately after the information session, a student will meet with a faculty or staff academic advisor. As is the case for Premiere DePaul sessions, every attempt is made to pair up students with incoming declared majors with faculty advisors in their proposed field of study. During the academic advising session in Transfer Transition, advisors will review any previous academic records, show how they translate to courses in the DePaul curriculum, and discuss options for the upcoming term's courses. Unlike Premiere DePaul, advisors not only suggest course options for incoming transfer students, but they also help the students enroll in those courses online.

3.2 – Declaration

3.2.1 – Declaration of major

If you are interested in declaring a major in the field of chemistry, you can do so in Campus Connection. In Campus Connection, choose **For Students**, **Records and Registration**, and then **Change College**, **Major**, **or Minor**. The application is relatively straightforward to use. It requires you to select the change you want to make from a series of dropdown boxes. Upon change of major, the department will assign a faculty academic advisor to you as described in section 2.3.

The procedure given above can also be used to change your declaration from chemistry to another field of study. If you plan to drop your major in chemistry, you should make arrangements to see your academic advisor one last time for the purpose of setting up a smooth transition to your new major.

See section 3.2.3 below for information regarding major field term requirements.

3.2.2 – Declaration of minor

If you are interested in declaring a minor in the field of chemistry, you can do so in Campus Connection using the method detailed in section 3.2.1. Upon change of minor, the department will assign a faculty academic advisor to you as described in section 2.3.

See section 3.2.3 below for information regarding minor field term requirements.

3.2.3 – Term requirements for majors and minors

The phrase *term requirement* refers to the term in which you declare a new major or a new minor. Terms are internally identified by a four-digit number in the university's enrollment systems. For example, the term code 0865 represents the Winter 2011 session. When you declare a new major or new minor, your academic record is stamped with the term code that is in effect at the time of your declaration. The academic program that is in place for your major or minor at that time is the one you need to complete in order to graduate. The department may change parts of its curriculum while you are a student, but those changes will not affect what is required of you at the time of your declaration. If the department no longer offers courses to fulfill you graduation requirements, it will work out arrangements known as substitutions or waivers for those classes; see section 3.10 below for more information.

3.2.4 – Declaration deadlines

You should declare a major in chemistry as soon as possible to take full advantage of the department's course offerings. Ideally, chemistry majors should declare by the beginning of their first year in residence, or at the latest by their third year at DePaul.

3.2.5 – Double-majors

You can declare a double-major using the same method mentioned in section 3.2.1. When you are a double-major, one of the majors will be primary, the other secondary. In thinking how to fulfill all of the requirements for the double-major, plan on meeting all the requirements (including the Liberal Studies Program) of the primary major. The requirements of the secondary major will often serve to complete

open elective credits for the primary major. In this fashion, it is possible to complete coursework for both majors at the same time. The specific rules governing double-majors can be found in the current edition of the Undergraduate Student Handbook found here. Please note that if you are a doublemajor, you will have two faculty academic advisors, one in each of your major fields of study. You should consult with both of these advisors regularly as they will provide the necessary perspective from their own fields regarding completion of the double-major.

3.3 – Credit by examination

The department accepts credit by examination. The most up-to-date information on what the department accepts for credit can be found on the Student Records web site. AP score credit can be found here, CLEP score credit can be found here, and IB credit can be found here. For the examination credit to be of use at DePaul, you must make arrangements to have the testing service send your examination results directly to the university at the following address:

DePaul University Office of Admission 1 East Jackson Boulevard Suite 9100 Chicago, Illinois 60604

If you are a chemistry major, you should consult the department chair or undergraduate program director before you begin your first term of study at DePaul. The department strongly encourages first-year majors to take the entire general chemistry sequence at DePaul regardless of their incoming examination credit. This recommendation is made in the spirit of integrating new students into the department and its curriculum.

3.4 – Transfer credit

3.4.1 – Submitting transcripts

The first step in the transfer of any credit to DePaul is to make arrangements to have transcripts from each college or university you have attended sent to the university at the following address:

DePaul University Office of Admission 1 East Jackson Boulevard Suite 9100 Chicago, Illinois 60604

No matter if you are an incoming transfer student, or an existing DePaul student who is earning credit elsewhere (e.g., taking a history course at a local community college during the summer), you must report all coursework completed outside of DePaul to the university. Failure to do so constitutes an academic integrity violation.

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3.4.2 – Assignment of transfer credit

The university accepts credit for courses taken outside of DePaul from duly accredited institutions. In general, for transfer credit to be applied at DePaul, the incoming credit-bearing course must articulate with (or map to) one at DePaul. The Transfer Articulation Center (TrAC) is responsible for setting up articulations between classes at other colleges and universities and DePaul. Incoming transfer courses are checked against the university's articulation database and if a match is found, the transfer credit is posted. If a match is not found, the TrAC attempts to assign credit as best it can. When it cannot make a determination, the TrAC issues a request to the department chair of the unit for which the credit is being proposed. The chair evaluates the course and can recommend an articulation to an existing course, an articulation to a generic transfer course that is posted as an open elective, or that no articulation should be made. This final recommendation is entered into the articulation database for future reference.

You are encouraged to consult the university's transfer course list application that is available here. You will be required to select a state, institution, and subject. Afterwards, you will be presented with a list of all of the courses in the subject selected that have been articulated to a course at DePaul. In addition, you will see information regarding each course's status with respect to the Liberal Studies Program.

If you are interested in seeing how outside credit applies at DePaul, or how DePaul courses might apply at another institution, you can also visit the U.Select web site. The university contributes course articulation information to this organization and it is a good tool to use to scope out articulations between schools. You may need to set up a free account to use this service.

3.4.3 – Transfer credit limit

You can transfer a maximum of 99 quarter credit hours from a community college or a maximum of 132 quarter credit hours from a qualified four-year institution. Transferring beyond these credit limits may cause you to graduate at a later date. You should contact your academic advisor if you plan on transferring in credit and are close to either of these limits.

3.4.4 – Incoming transfer students

If you are an incoming transfer student, you should see to it that you meet with your academic advisor as soon as possible, even if you just met with an intake advisor during a Transfer Transition session. The purpose of this meeting is two-fold. First, it is a good idea to introduce yourself to your departmental academic advisor. Second, you will want to check that all of your expected transfer credits have been received and accepted. You and your advisor should also review your credit evaluation form or the results on the online DPR. This will also give you an opportunity to develop a yearly course schedule to help you graduate in a timely manner.

3.4.5 - Current DePaul students

As a current DePaul student, you are welcome to take some courses outside of DePaul. Some students find it convenient to complete courses in the Liberal Studies Program at their local community college while back home for the summer break. You are strongly encouraged to consult your academic advisor before enrolling at another institution for the purpose of transferring back credit. If after consultation

you still plan to take courses outside of DePaul, they must be pre-approved by the college office. The form that needs to be completed can be found here.

3.4.6 – Transfer credit grades

Grades from courses that are transferred to the university are not used in the computation of the DePaul grade point average (GPA). Transferred courses may be repeated at DePaul, with the grades for classes repeated at DePaul included in the GPA calculation.

3.5 – General academic policies

The following entries list some general policies that exist at the department, college, and university levels. The entries do not represent the full compendium of all policies at each of these levels. These selected synopses are provided here for your convenience as they cover topics that are most relevant to undergraduate students.

3.5.1 – Department policies

3.5.1.1 – Prerequisites

The department enforces all prerequisite rules for each course that it offers. Each instructor, however, has the discretion to waive prerequisite rules for his or her own course(s). If you seek to have the prerequisites for a course waived, you must petition the instructor in writing, clearly stating the reasons why you are seeking the prerequisite waiver. The instructor will consider the request, and his or her decision on the matter is final.

You can view the prerequisites for every course offered by the department online. Sign on to Campus Connection, and click on Course Descriptions in the left hand side menu. Click on C to jump to the page that lists chemistry courses (under CHE). Finally, click on a course link to see prerequisite information that is listed next to the Enrollment Requirement label.

3.5.1.2 – Minimum grade in prerequisite courses

You must earn a grade of C- or better in all prerequisite courses for any chemistry course. If this criterion is not met, the department will automatically drop you from the course roster. You may petition the instructor of the course for a waiver as detailed in section 3.5.1.1.

3.5.1.3 – Co-requisites

Due to the structure of the chemistry curriculum, you will see that many courses have co-requisites. More often than not, a laboratory course is a co-requisite of a lecture course and vice-versa. When courses are set up as co-requisites, they are intended to be taken together. This system prevents students from racing through parts of the curriculum without passing other crucial elements at the same time. If you are taking co-required courses and pass one, but not the other, you will likely not be able to advance through the curriculum due to prerequisite checks (see sections 3.5.1.1 and 3.5.1.2 above). You can, however, retake the course that you did not pass without retaking the one that you did. In this case, passing the co-required course satisfies the co-requisite of the course that needs to be retaken.

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3.5.1.4 – General chemistry placement

In addition to meeting a mathematics prerequisite, every student who enrolls in the first session of general chemistry is required to take a standardized chemistry placement examination. The results of this examination are used by the general chemistry faculty to determine if you are ready to enroll in general chemistry. If you do not place into general chemistry, you will be removed from the course roster and be given a chance to enroll in a general chemistry preparation course. The decision of the general chemistry faculty in this matter is final. Successfully completing the preparation course will allow you to move directly to the first course of the general chemistry sequence.

3.5.1.5 – Closed course sections

The department attaches electronic waitlists to each of its courses. Waitlists are populated on a firstcome, first-enroll basis after a section reaches its enrollment capacity and closes. The department honors the order of waitlist in order to be fair to all students waiting to enroll. That being said, you can petition the instructor of a closed section to be added to the section's roster if you believe that extenuating circumstances that warrant your enrollment exist. Such circumstances usually involve some technical issue that may have prevented you from self-enrolling. Claims made for other reasons such as the "need to graduate on time" are generally not successful because usually every student on a waitlist can make the same argument.

If you decide to petition an instructor, the petition must be in writing (an e-mail message is acceptable) and clearly state the grounds on which you are making the request. The instructor will consider the request in light of the department's commitment to honor the waitlist. His or her decision on the matter is final. If the instructor agrees to add you to his or her section's roster, the instructor must send the enrollment request to the department assistant. The request should include your name, ID number, and a valid e-mail address. He or she should also include the course and section number, and reason for the enrollment request. The department assistant will keep the request on file and notify you and the instructor once the enrollment request has been processed.

Due to safety regulations, laboratory-based courses cannot be over-enrolled.

3.5.1.6 – Course syllabi

Each course should have a complete syllabus that describes the course, the grading policy, and objectives/expectations. The instructor usually distributes (or posts online) the syllabus on the first day of class. You should thoroughly read the syllabus and consider it as a contract between you and your instructor.

3.5.1.7 – Departmental communication

When announcements need to be made, the department will usually send electronic messages to all of its students using the e-mail address that is marked as preferred in Campus Connection. To check or change your preferred e-mail address, log on to Campus Connection, click on **Demographic Portfolio** in the left hand menu, and then select **Email Addresses**. Follow the instructions on that page to update your information.

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The department will also make announcements through its web site, and additional information can be obtained through its college link found here.

3.5.1.8 – Departmental employment

The department offers employment opportunities for its students. Working for the department is in many ways preferable to obtaining outside employment as it integrates you into the department community and gives you a glimpse of what working in the field of chemistry is like. To be considered for an employment opportunity, your GPA must be 3.000 or above. To serve as a laboratory or course assistant, you must have earned a grade of B or higher in the same course. The department also employs students as stockroom assistants, laboratory preparers, and graders.

3.5.1.9 – Course help

The department offers many opportunities to students who need help in their courses. All laboratory assistants are required to hold at least one office hour per week. Course assistants and supplemental instruction assistants hold recitation hours and office hours as well. The department itself no longer operates a free tutoring service. If you wish to seek a tutor, contact the department assistant at the main department number (773) 325-7420, or send a request to the general chemistry mailbox at chemistry@depaul.edu. The department assistant will pass your contact information along to a list of students who have expressed an interest in providing private tutoring services.

The Science and Math Learning Center (SMLC) provides free tutoring and academic support in the following areas: chemistry, mathematical sciences, physics, psychology (for statistics), quantitative reasoning (for LSP 120/121), and writing in the sciences. In most circumstances the services are administered by graduate students and undergraduate students in their senior year, most of whom are earning a degree with a focus in one of the disciplines described above.

The SMLC is located in O'Connell Hall 300. Contact information, hours of operation, and an up-to-date schedule of tutors can be found here. The SMLC operates on a walk-in basis. You must bring your student ID with you in order to be able to use SMLC services.

3.5.2 – University policies

3.5.2.1 – Minimum graduation requirements

In order to graduate, the following requirements must be met:

- 192 credit hours accumulated across the Liberal Studies Program, major field courses, allied field courses, and open electives
- Completion of all courses specified in the major and minor (if selected) fields of study with a grade of C- or better
- Overall GPA of 2.000 or greater

3.5.2.2 – Degree conferral

In anticipation of degree conferral, you should first meet with your academic advisor to check that all degree requirements will be met in time for the intended conferral date, which generally occurs within

30 days of the end of any academic term. Next, you should read the document put together by Student Records located here. A list of frequently asked questions concerning degree conferral can be found here.

3.5.2.3 – Academic probation

You will be placed on academic probation if you do not maintain a cumulative GPA 2.000 or above. You may be dismissed from the university if you remain on academic probation for more than two consecutive quarters.

3.5.2.4 – Academic integrity

Plagiarism and other forms of academic integrity violations are not tolerated at DePaul. You should read and become familiar with academic integrity policies of the university, which can be found here. The academic integrity site contains additional useful information including a list of frequently asked questions.

3.5.2.5 – Leave of absence or withdrawal from the university

You may apply for a leave of absence or withdraw completely from the university by logging on to Campus Connection, clicking on **Records and Registration**, and then selecting **Withdrawal/Leave Request**. Fill out the online form and then click **Submit** to initiate the process.

3.5.2.6 – Registration blocks

If you have a block placed on your record, you will not be able to enroll in any course for an upcoming term. The block may be financial in nature, or some other required activity like the submission of vaccination records. You need to work with staff members in DePaul Central to get the block removed.

3.5.2.7 – Enrollment activity

You can add courses to your schedule through the end of the first week of any regular academic session. You can drop any course without penalty or charge through the second week of any regular academic session. After that time, you are capable of withdrawing from any course through the end of the seventh week of any regular academic session. In this case, you will automatically be assigned a grade of W for the course. The deadlines for academic sessions other than the autumn, winter, and spring quarters can be found at the university's academic calendar site located here.

3.5.2.8 – Pass/fail option

You may only take open elective courses as pass/fail. To be eligible for this option, you must have sophomore standing and cannot be on academic probation. Only one course per term may be taken under the pass/fail option. No more than 20 credit hours of coursework may be completed under the pass/fail option. See the Undergraduate Student Handbook for more information.

3.5.2.9 – Grade of incomplete (IN)

You must formally request an incomplete grade (IN) from your instructor. To be eligible, you must average a passing grade at the time of your request. If the instructor concurs, then an IN grade will appear on your transcript. You must complete the required course work to remove the incomplete

grade within the two following quarters (excluding summer). After that time, the incomplete grade will automatically convert to a failing grade.

3.5.2.10 – Repeated and bracketed grades

You are free to retake any course at DePaul. All grades for the same course will appear on your transcript. If you take a course twice, then only the second grade will be used to calculate your GPA. If you take a course more than twice, then the second and all subsequent grades will be used to calculate your GPA. You are strongly encouraged to consult with your academic advisor to evaluate whether retaking a course is worthwhile, particularly if you do not need to retake it to meet the graduation requirements.

Repeating the same course is a fairly straightforward process. When a department changes aspects of its curriculum, however, it may not be possible to repeat the same course again. Alternatively, there may be other course options in the department that can be used to in effect overlay the grade of a course that needs to be repeated. Under these conditions, a bracketing rule will be set up to accommodate the university's repeat policy. Bracketing rules are often coordinated between the department, OASS, and Student Records.

3.6 – Programs

The department's mission has long been implemented through a curriculum that was designed, in part, according to guidelines established by the American Chemical Society (ACS), a congressionally chartered independent membership organization representing professionals at all degree levels and in all fields of chemistry and related sciences. Effective Autumn, 2011, the department rolled out a revised curriculum that was motivated by the development of a new set of guidelines by the ACS for earning an ACS-accredited B.S. degree in chemistry. In keeping with the mission of the university, the department views these new ACS guidelines as providing a unique opportunity to enhance the academic quality of its program, while maximizing utilization of existing resources. The curriculum revision constitutes a streamlining of the major and has the potential to make the ACS-accredited B.S. degree in chemistry accessible to more students.

3.6.1 – Background

Recently, the ACS has significantly restructured its guidelines and requirements for earning the accredited B.S. degree, making it much more accessible to a broader base of students. Under the new guidelines, an ACS-accredited curriculum must include: Introductory (or General) Chemistry, Foundation Course Work, and In-depth Course Work. Foundation courses must include eight, one-quarter courses with at least one course in each of the following areas: analytical chemistry, biochemistry, inorganic chemistry, and physical chemistry. These courses should expand on knowledge gained in general chemistry and lay the groundwork for in-depth courses, of which students must take six, one-quarter courses. In addition to the laboratory experience gained in general chemistry, students must engage in an additional 400 hours of laboratory work. This laboratory time can be associated with courses or with research, if a written report is required for the research. These requirements can be formulated into individual degree tracks focusing on different areas of chemistry.

3.6.2 – Undergraduate curriculum overview

The department believes its revised curriculum will facilitate its students in their efforts to achieve several of DePaul University's learning goals, including: mastery of content; articulate communication; capacity to work toward accomplishing goals both independently and cooperatively; critical and creative thinking.

As outlined by the new ACS guidelines, the goals of in-depth course work are twofold: (1) to integrate topics introduced in the foundation courses, and (2) to investigate these topics more thoroughly. The ACS suggests, and the department concurs, that in-depth coursework be "a collection [of courses] that supports a specialized, department-defined degree track." Based on the expertise of our faculty and the interests and goals of our students, the department will offer the following four ACS-accredited B.S. degree tracks:

- Analytical/Physical Chemistry
- Biochemistry/Medicinal Chemistry
- Synthetic Chemistry
- Standard Chemistry

The department will continue to offer a non-ACS-accredited B.A. degree in chemistry, as well. The courses related to each of these baccalaureate options is shown in Table 3.1.

| Degree > | ACS-Certified BS | | | | | | | | | |
|------------------------|------------------|--------------------------|---------------------|-------------------|----------|--|--|--|--|--|
| Track-> | Standard | Biochem/Medicinal | Analytical/Physical | Synthetic | Standard | | | | | |
| Introductory | | | | | | | | | | |
| Courses | CHE 132/CHE 133 | | | | | | | | | |
| | | | CHE 134/CHE 135 | | | | | | | |
| | | | CHE 202 (2 cr) | | | | | | | |
| | CHE 204/CHE 205 | | | | | | | | | |
| | | | CHE 230/CHE 231 | | | | | | | |
| Foundation | | | CHE 232/CHE 233 | | | | | | | |
| Courses | | | CHE 302/CHE 303 | | | | | | | |
| | | | CHE 304/CHE 305 | | | | | | | |
| | | | CHE 320/CHE 321 | | | | | | | |
| | | | CHE 340/CHE 341 | | | | | | | |
| | | 1 | CHE 394 (2 cr) | 1 | 1 | | | | | |
| In-Depth | CHE 234/CHE 235 | CHE 234/CHE 235 | CHE 234/CHE 235 | CHE 234/CHE 235 | | | | | | |
| Courses | CHE 306/CHE 307 | CHE 342/CHE 343 | CHE 306/CHE 307 | CHE 326/327 | | | | | | |
| | | CHE 344/CHE 345 | CHE 378 | CHE 378 | | | | | | |
| | 16 Cr Hrs from: | | | | | | | | | |
| | any CHE 300+ | 12 Cr Hrs from: | 12 Cr Hrs from: | 12 Cr Hrs from: | | | | | | |
| | | CHE 306/CHE 307 | CHE 264/CHE 265 | CHE 360 | | | | | | |
| | | CHE 318 | CHE 268/CHE 269 | CHE 362 | | | | | | |
| | | CHE 348 | CHE 310 | CHE 422 | | | | | | |
| | | CHE 360 | CHE 318 | CHE 424 | | | | | | |
| | | CHE 362 | CHE 470 | CHE 430/431 | | | | | | |
| | | CHE 364 | CHE 472 | CHE 434/435 | | | | | | |
| | | CHE 442 | CHE 474 | CHE 450 | | | | | | |
| | | CHE 444 | CHE 476/CHE 477 | CHE 452 | | | | | | |
| | | CHE 474 | CHE 48X (2 cr) | CHE 48X (2 cr) | | | | | | |
| | | CHE 476/CHE 477 | | | | | | | | |
| | | CHE 48X (2cr) | | | | | | | | |
| Allied | N | IAT 170/171/172 or 160/1 | | or MAT147/148/149 | | | | | | |
| Courses | | PHY 170/171/172 | | | | | | | | |
| Major Credits | 92 | 92 | 92 | 92 | 68 | | | | | |
| LSP Credits | 76 | 76 | 76 | 76 | 76 | | | | | |
| Open Elective Credits | 24 | 24 | 24 | 24 | 48 | | | | | |
| Total Credits | 192 | 192 | 192 | 192 | 192 | | | | | |

| Table 2.4. | Table Mari | af + h a | | |
|------------|-------------|-----------------|---------------|------------|
| Table 3.1: | I able view | or the | undergraduate | curriculum |

As you can see, the chemistry curriculum is three-tiered, beginning with the Introductory Courses, through the Foundation Courses, and ending with the In-Depth Courses. Special attention should be paid to the prerequisites of each course offered in the curriculum. You will need to take courses in the allied fields of physics and mathematics, namely the entire calculus-based general physics sequence and a year-long calculus sequence; if you plan on following the biochemistry and medicinal chemistry track, it is recommended that you complete the general biology sequence. As indicated in Table 3.1, you must also complete the Liberal Studies Program (LSP, see section 3.8 below) and take 24 credit hours in open electives. The Junior Year Experiential Learning LSP component may be fulfilled by enrolling in CHE392 (Internship), CHE397 (Advanced Lab Project), CHE398 (Chemistry Thesis); see section 3.8 below.

In addition to the traditional baccalaureate degrees noted above, the department offers the following five-year programs:

- B.S./M.S. program in chemistry
- B.S./Ch.E. program in chemical engineering (joint with the Illinois Institute of Technology)
- B.S./M.Ed. program in secondary education (joint with the College of Education)

These programs offer an appealing way for students to earn advanced degrees with an extra year of study at DePaul.

3.6.3 – Master course listing

A master list of all major-level courses offered by the department can be found in Table 3.2. This table also includes for each course its ACS level, type, credit hours, prerequisites, co-requisites, and frequency of offering.

| Nbr | Title | ACS | Туре | Hrs | Frq | Co-requisites | Prerequisites |
|-----|------------------------------------|-----|------|-----|-----|----------------|------------------------------------|
| 100 | Our Chemical World | SI | LEC | 4 | VAR | | LSP120 |
| 101 | Exploring Matter | SI | LLB | 4 | VAR | | LSP120 |
| 102 | Atoms and Molecules | SI | LEC | 4 | VAR | | LSP120 |
| 103 | Environmental Chemistry | SI | LLB | 4 | VAR | | LSP120 |
| 104 | Chem, Drugs, Living Systems | SI | LEC | 4 | VAR | | LSP120 |
| 105 | Science of Nutrition | SI | LLB | 4 | VAR | | LSP120 |
| 106 | Geochemistry | SI | LEC | 4 | VAR | | LSP120 |
| 107 | Proteins and Their Genes | SI | LLB | 4 | VAR | | LSP120 |
| 108 | Conquest of Disease | SI | LEC | 4 | VAR | | LSP120 |
| 109 | Forensic Chemistry | SI | LLB | 4 | VAR | | LSP120 |
| 110 | National Security, Sci, Tech | SI | LEC | 4 | VAR | | LSP120 |
| 128 | Basic Chemical Concepts | Ι | LEC | 3 | AWS | 129 and MAT130 | |
| 129 | Basic Chemical Concepts Lab | Τ | LAB | 1 | AWS | 128 and MAT130 | |
| 130 | General Chemistry I | Ι | LEC | 3 | AWS | 131 | MAT130 and (Exam or (128 and 129)) |
| 131 | General Chemistry Lab I | Ι | LAB | 1 | AWS | 130 | MAT130 and (Exam or (128 and 129)) |
| 132 | General Chemistry II | Ι | LEC | З | AWS | 133 | 130 and 131 |
| 133 | General Chemistry Lab II | Ι | LAB | 1 | AWS | 132 | 130 and 131 |
| 134 | General Chemistry III | Т | LEC | 3 | AWS | 135 | 132 and 133 |
| 135 | General Chemistry Lab III | Ι | LAB | 1 | AWS | 134 | 132 and 133 |
| 136 | General Chemistry I | Т | LEC | 5 | SS1 | 137 | MAT130 and (Exam or (128 and 129)) |
| 137 | General Chemistry Lab I | Ι | LAB | 1 | SS1 | 136 | MAT130 and (Exam or (128 and 129)) |
| 138 | General Chemistry II | Т | LEC | 5 | SS2 | 139 | 136 and 137 |
| 139 | General Chemistry Lab II | Т | LAB | 1 | SS2 | 138 | 136 and 137 |
| 202 | Applied Probability and Statistics | F | LEC | 2 | А | 204 | |
| 204 | Analytical Chemistry | F | LEC | 3 | А | 205 | (134 and 135) or (138 and 139) |
| 205 | Analytical Chemistry Lab | F | LAB | 1 | А | 204 | (134 and 135) or (138 and 139) |
| 228 | Survey of Organic Chemistry | | LEC | 3 | S | 229 | (132 and 133) or (138 and 139) |
| 229 | Survey of Organic Chemistry Lab | | LAB | 1 | S | 228 | (132 and 133) or (138 and 139) |
| 230 | Organic Chemistry I | F | LEC | 3 | AW | 231 | (134 and 135) or (138 and 139) |
| 231 | Organic Chemistry Lab I | F | LAB | 1 | AW | 230 | (134 and 135) or (138 and 139) |
| 232 | Organic Chemistry II | F | LEC | 3 | WS | 233 | 230 and 231 |
| 233 | Organic Chemistry Lab II | F | LAB | 1 | WS | 232 | 230 and 231 |
| 234 | Organic Chemistry III | D | LEC | 3 | AS | 235 | 232 and 233 |

 Table 3.2: Master course listing

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| Table | 3.2: | Continue | d |
|-------|------|----------|---|
|-------|------|----------|---|

| Nbr | Title | ACS | Туре | Hrs | Frq | Co-requisites | Prerequisites |
|-----|---------------------------------|-----|------|-----|-----|---------------|--|
| 235 | Organic Chemistry Lab III | D | LAB | 1 | AS | 234 | 232 and 233 |
| 236 | Organic Chemistry I | F | LEC | 5 | S1 | 237 | (134 and 135) or (138 and 139) |
| 237 | Organic Chemistry Lab I | F | LAB | 1 | S1 | 236 | (134 and 135) or (138 and 139) |
| 238 | Organic Chemistry II | D | LEC | 5 | S2 | 239 | 236 and 237 |
| 239 | Organic Chemistry Lab II | D | LAB | 1 | S2 | 238 | 236 and 237 |
| 264 | Atmospheric Chemistry | D | LEC | 3 | SE | 265 | 204 and 205 |
| 265 | Atmospheric Chemistry Lab | D | LAB | 1 | SE | 264 | 204 and 205 |
| 268 | Solid Waste Chemistry | D | LEC | 3 | SO | 269 | 204 and 205 |
| 269 | Solid Waste Chemistry Lab | D | LAB | 1 | SO | 268 | 204 and 205 |
| 302 | Quantum Chemistry | F | LEC | 3 | W | 303 | 204 and 205 and Calc and PHY172 |
| 303 | Exp Physical Chemistry I | F | LAB | 1 | W | 302 | 204 and 205 and Calc and PHY172 |
| 304 | Thermochemistry | F | LEC | 3 | S | 305 | 302 and 303 |
| 305 | Exp Physical Chemistry II | F | LAB | 1 | S | 304 | 302 and 303 |
| 306 | Kinetics and Molecular Dynamics | D | LEC | 3 | А | 307 | 304 and 305 |
| 307 | Exp Physical Chemistry III | D | LAB | 1 | А | 306 | 304 and 305 |
| 310 | Nuclear Chemistry | D | LEC | 4 | wo | | 134 or 138 |
| 318 | Biophysical Chemistry | D | LEC | 4 | WE | | 304 or 342 |
| 320 | Int Inorganic Chemistry | D | LEC | 3 | W | 321 | (234 and 235) or (238 and 239) |
| 321 | Int Inorganic Chemistry Lab | D | LAB | 1 | W | 320 | (234 and 235) or (238 and 239) |
| 326 | Int Organic Chemistry | D | LEC | 3 | AE | 327 | (234 and 235) or (238 and 239) |
| 327 | Int Organic Chemistry Lab | D | LAB | 1 | AE | 326 | (234 and 235) or (238 and 239) |
| 330 | Capstone in Physical Sciences | CS | LEC | 4 | S | | |
| 340 | Biochemistry I | F | LEC | 3 | А | 341 | (232 and 233) or (238 and 239) |
| 341 | Exp Biochemistry I | F | LAB | 1 | А | 340 | (232 and 233) or (238 and 239) |
| 342 | Biochemsitry II | D | LEC | 3 | W | 343 | ((234 and 235) or (238 and 239)) and (340 and 341) |
| 343 | Exp Biochemistry II | D | LAB | 1 | W | 342 | ((234 and 235) or (238 and 239)) and (340 and 341) |
| 344 | Biochemistry III | D | LEC | 3 | S | 345 | 342 and 343 |
| 345 | Exp Biochemistry III | D | LAB | 1 | S | 344 | 342 and 343 |
| 348 | Chemical Biology | D | LEC | 4 | AE | | 344 |
| 360 | Medicinal Chemistry | D | LEC | 4 | wo | | 234 or 238 |
| 362 | Drugs and Toxicology | D | LEC | 4 | SO | | 360 |
| 364 | Nutrition | D | LEC | 4 | WE | | 234 or 238 |
| 378 | Applied Spectroscopy | D | LEC | 4 | А | | (235 or 239) and 305 |
| 392 | Internship | EL | LEC | Var | AWS | | Consent; must submit form found here |
| 394 | Seminar | F | LEC | 2 | А | | |
| 397 | Advanced Lab Project | EL | LAB | Var | AWS | | Consent; must submit form found here |
| 398 | Chemistry Thesis | EL | LEC | Var | WS | | Consent; must submit form found here |
| 399 | Independent Study | | LEC | Var | OD | | Consent; must submit form found here |
| 422 | Adv Inorganic Chemistry I | G | LEC | 4 | WO | | 320 |
| 424 | Adv Inorganic Chemistry II | G | LEC | 4 | WE | | 320 |
| 430 | Polymer Synthesis | G | LEC | 4 | AO | | 234 or 238 |
| 431 | Polymer Synthesis Lab | G | LAB | 2 | AO | | 235 or 239 |

____ [17]_____

| Nbr | Title | ACS | Туре | Hrs | Frq | Co-requisites | Prerequisites |
|-----|-----------------------------------|-----|------|-----|-----|---------------|---------------|
| 432 | Physical Chemistry of Polymers | G | LEC | 4 | WE | | 304 |
| 434 | Polymer Characterization | G | LEC | 4 | AE | | 234 or 238 |
| 435 | Polymer Characterization Lab | G | LAB | 2 | AE | | 235 or 239 |
| 436 | Polymer Technology | G | LEC | 4 | WOE | | 234 or 238 |
| 438 | Material Science | G | LEC | 4 | SO | | 234 or 238 |
| 442 | Adv Biochemistry I | G | LEC | 4 | AE | | 344 |
| 444 | Adv Biochemistry II | G | LEC | 4 | AO | | 344 |
| 450 | Adv Organic Chemistry I | G | LEC | 4 | AO | | 234 or 238 |
| 452 | Adv Organic Chemistry II | G | LEC | 4 | AE | | 234 or 238 |
| 470 | Adv Physical Chemistry I | G | LEC | 4 | W/S | | 306 |
| 472 | Adv Physical Chemistry II | G | LEC | 4 | W/S | | 306 |
| 474 | Adv Quantum Mechanics | G | LEC | 4 | VAR | | 302 |
| 476 | Computational Chemistry | G | LEC | 3 | SE | 477 | 302 |
| 477 | Computational Chemistry Lab | G | LAB | 1 | SE | 476 | 302 |
| 480 | Spec Topics in Anal Chemistry | G | LEC | 2 | VAR | | 204 |
| 482 | Spec Topics in Biochemistry | G | LEC | 2 | VAR | | 344 |
| 484 | Spec Topics in Inorg Chemistry | G | LEC | 2 | VAR | | 320 |
| 486 | Spec Topics in Organic Chemistry | G | LEC | 2 | VAR | | 234 |
| 488 | Spec Topics in Physical Chemistry | G | LEC | 2 | VAR | | 306 |
| 490 | Adv Probability and Statistics | G | LEC | 4 | S | | 202 |
| 497 | Research | G | LAB | Var | AWS | | Consent |
| 499 | Independent Study**** | G | LEC | Var | OD | | Consent |
| 502 | Candidacy Continuation | G | LEC | Var | OD | | Consent |

Table 3.2: Continued

In the event that a course is cancelled or moved temporarily to a different quarter, the department will inform its current students as soon as the decision is made. Such temporary changes may also be posted on the web. A five-year plan of 400-level courses is available from the director of graduate studies.

The key for the codes in Table 3.2 are given in Table 3.3:

| Column | Code | Description | | | |
|--------|------|--|--|--|--|
| | I | Introductory | | | |
| | CS | Senior Capstone | | | |
| | EL | Experiential Learning | | | |
| ACS | F | Foundations | | | |
| | D | In-depth | | | |
| | G | In-depth/graduate | | | |
| | SI | Scientific Inquiry (Liberal Studies Program) | | | |
| Type | LAB | Laboratory | | | |
| Туре | LEC | Lecture | | | |
| Hrs | Var | Variable | | | |
| | А | Autumn quarters | | | |
| | AE | Autumn quarters – even years | | | |
| | AO | Autumn quarters – odd years | | | |
| | AS | Autumn and spring quarters | | | |
| | AW | Autumn and winter quarters | | | |
| | AWS | Autumn, winter, and spring quarters | | | |
| | OD | On demand | | | |
| | S | Spring quarters | | | |
| | SS1 | Summer session I | | | |
| Freq | SS2 | Summer session II | | | |
| | SE | Spring quarters – even years | | | |
| | SO | Spring quarters – odd years | | | |
| | VAR | Variable, as needed | | | |
| | W | Winter quarters | | | |
| | WE | Winter quarters – even years | | | |
| | WO | Winter quarters – odd years | | | |
| | WOE | Winter quarters – odd or even years | | | |
| | WS | Winter and spring quarters | | | |
| 1 | | | | | |
| | W/S | Winter or spring quarters | | | |

Table 3.3: Codes for master course listing

3.6.4 – Bachelor of Science tracks

3.6.4.1 – Common core

All of the B.S. tracks and the B.A. track in the revised curriculum have a starting common point in that each of them requires a full year of general chemistry and a full year of organic chemistry. As such, the first two years for chemistry majors look similar, and they largely depend on your mathematics placement. Use the following rubric to determine the proper table to use to start up your major in chemistry:

Table 3.4: Rubric for a starting chemistry major

| Step | Question | Action |
|------|---|--|
| 1 | Are you a transfer student? | If no, go to Step 2 otherwise Step 6 |
| 2 | Is your math placement below MAT130? | If no, go to Step 3 otherwise see your advisor |
| 3 | Is your math placement at MAT130? | If no, go to Step 4 otherwise go to Table 3.4.1 |
| 4 | Is your math placement at MAT131? | If no, go to Step 5 otherwise go to Table 3.4.2 |
| 5 | Are you interested in taking general physics? | If no, go to Table 3.4.3 otherwise go to Table 3.4.4 |
| 6 | Did you transfer in any chemistry credit? | If no, go to Step 7 otherwise see your advisor |
| 7 | Did you take a math placement exam? | If no, go to Step 8 otherwise go to Step 2 |
| 8 | Did you transfer in any calculus credit? | If no, see your advisor otherwise go to Step 5 |

Table 3.4.1: Starting schedule for students who are at math placement MAT130

| | Year AQ WQ SQ | | | | |
|------|--------------------------|--------------------------|------------|--|--|
| rear | AQ | vvQ | SQ | | |
| | CHE128/129 [0] | CHE130/131 | CHE132/133 | | |
| 1 | LSP110 or LSP111 | LSP112 | | | |
| 1 | MAT130 | MAT131 | MAT150 [1] | | |
| | WRD103 | WRD104 | | | |
| | CHE134/135 | CHE230/231 | CHE232/233 | | |
| 2 | MAT151 [1] or MAT147 [2] | MAT152 [1] or MAT148 [2] | MAT149 [2] | | |
| 2 | LSP200 | | | | |
| | PHY170 | PHY171 | PHY172 | | |
| | CHE234/235 [3] | | | | |
| 3 | | | | | |
| 5 | | | | | |
| | | | | | |

[0]: CHE128/129 is optional, but is a prerequisite for CHE130/131 if chemistry placement is low.

[1]: Calculus option 1.

[2]: Calculus option 2.

[3]: See track tables for additional detail for the third year and beyond.

| Year | AQ | WQ | SQ |
|------|----------------------|--------------------------|------------------------|
| | CHE130/131 | CHE132/133 | CHE134/135 |
| 1 | LSP110 or LSP111 | LSP112 | |
| T | MAT131 or MAT147 [1] | MAT148 [1] or MAT150 [2] | MAT149[1] or MAT151[2] |
| | WRD103 | WRD104 | |
| | CHE230/231 | CHE232/233 | CHE234/235 |
| 2 | MAT152 [2] | | |
| 2 | LSP200 | | |
| | PHY170 | PHY171 | PHY172 |

Table 3.4.2: Starting schedule for students who are at math placement MAT131

[0]: CHE128/129 is optional, but is a prerequisite for CHE130/131 if chemistry placement is low.

[1]: Calculus option 1 (preferred).

[2]: Calculus option 2.

Table 3.4.3: Starting schedule for students who place into calculus and want to defer general physics

| Year | AQ | WQ | SQ |
|------|----------------------------|----------------------------|----------------------------|
| | CHE130/131 | CHE132/133 | CHE134/135 |
| 1 | LSP110 or LSP111 | LSP112 | |
| 1 | MAT(160 or 170 or 150) [0] | MAT(161 or 171 or 151) [0] | MAT(162 or 172 or 152) [0] |
| | WRD103 | WRD104 | |
| | CHE202/204/205 [1] | CHE232/233 | CHE234/235 |
| 2 | CHE230/231 | MAT(161 or 171 or 151) [2] | MAT(162 or 172 or 152) [2] |
| 2 | MAT(160 or 170 or 150) [2] | LSP200 | |
| | PHY170 | PHY171 | PHY172 |

[0]: Calculus option 1

[1]: Statistics and analytical chemistry option

[2]: Calculus option 2 (preferred).

Table 3.4.4: Starting schedule for students who place into calculus and want general physics

| Year | AQ | WQ | SQ |
|------|------------------------|------------------------|------------------------|
| | CHE130/131 | CHE132/133 | CHE134/135 |
| 1 | LSP110 or LSP111 | MAT(161 or 171 or 151) | LSP112 |
| 1 | MAT(160 or 170 or 150) | PHY171 | MAT(162 or 172 or 152) |
| | PHY170 | WRD103 | PHY172 |
| | CHE202/204/205 [0] | CHE232/233 | CHE234/235 |
| 2 | CHE230/231 | LSP200 | |
| 2 | WRD104 | | |
| | | | |

[0]: Statistics and analytical chemistry option

3.6.4.2 – Analytical Chemistry and Physical Chemistry track

The analytical chemistry and physical chemistry track is designed for student whose interests lie in those areas of chemistry. If you are interested in developing analytical techniques, environmental chemistry, designing scientific equipment, or the interface between physics and chemistry, this track may be the one for you. The track features a variety of courses at the upper-level to prepare you for employment or further study in these areas. The grids below show sample chemistry schedules for the third and fourth year of your study in the ACS-certified Analytical Chemistry and Physical Chemistry track.

| Table 5.5. Analytical Chemistry and Physical Chemistry Course Options | | | | |
|---|-----------------------|---------------------|---------------------|--|
| Year | AQ | WQ | SQ | |
| 3 – Odd | CHE202/204/205 [M][2] | CHE302/303 [M] | CHE264/265 [O] | |
| | CHE340/341 [M] | CHE320/321 [M][3] | CHE304/305 [M] | |
| | CHE394 [M] | | CHE476/477 [O] | |
| | | | | |
| 4 – Even | CHE306/307 [M] | CHE310 [O] | CHE268/269 [O] | |
| | CHE474 [O] | CHE470 [O] | | |
| | CHE378 [M] | | CHE472 [O] | |
| | | | | |
| 3 – Even | CHE202/204/205 [M][2] | CHE302/303 [M] | CHE268/269 [O] | |
| | CHE340/341 [M] | CHE310 [O] | CHE304/305 [M] | |
| | CHE394 [M] | CHE342/343 [P: 318] | CHE344/345 [P: 318] | |
| | | | | |
| 4 – Odd | CHE306/307 [M] | CHE318 [O] | CHE264/265 [O] | |
| | CHE378 [M] | CHE320/321 [M][3] | CHE476/477 [O] | |
| | | | | |
| | | | | |
| | | • | • | |

Table 3.5: Analytical Chemistry and Physical Chemistry course options

[M]: Mandatory course for track

[0]: Elective course for track

[P]: Prerequisite course for elective course in track

[2]: Course may be taken in second year after completion of general chemistry

[3]: Course may be taken in the third year

3.6.4.3 – Biochemistry and Medicinal Chemistry track

The Biochemistry and Medicinal Chemistry track makes a good choice if you are looking to explore the interdisciplinary area between chemistry and biology. The topics covered in this track result in a solid preparation for work in biotechnology or the pharmaceutical industry. This track will also provide a good foundation for students interested in professional fields such as medicine, dentistry, or the veterinarian sciences. It is also a good preparation for students intending to go to graduate school for medicinal chemistry. Table 3.6 displays some of the course options that are available to you in this ACS-certified track.

| Year | AQ | WQ | SQ |
|----------|-----------------------|-------------------|-------------------|
| 3 – Odd | CHE202/204/205 [M][2] | CHE302/303 [M][4] | CHE304/305 [M][4] |
| | CHE340/341 [M] | CHE342/343 [M] | CHE344/345 [M] |
| | CHE394 [M] | CHE364 [O] | CHE476/477 [O] |
| | | | |
| 4 – Even | CHE306/307 [O] | CHE360 [O] | CHE362 [O] |
| | CHE474 [O] | CHE442 [O] | CHE444 [O] |
| | | CHE320/321 [M][3] | |
| | | | |
| 3 – Even | CHE202/204/205 [M] | CHE302/303 [M][4] | CHE304/305 [M][4] |
| | CHE340/341 | CHE342/343 [M] | CHE344/345 [M] |
| | CHE394 [M] | | |
| | | | |
| 4 – Odd | CHE306/307 [O][P:318] | CHE318 [O] | CHE476/477 [O] |
| | CHE348 [O] | CHE364 [O] | |
| | | CHE320/321 [M][3] | |
| | | | |
| | | | |

[M]: Mandatory course for track

[0]: Elective course for track

[P]: Prerequisite course for elective course in track

[2]: Course may be taken in second year after completion of general chemistry

[3]: Course may be taken in the third year

[4]: Course may be taken in the fourth year unless CHE306/307 is taken as an elective course

3.6.4.4 – Standard Chemistry track

The Standard Chemistry track is a flexible option for students who want to sample a variety of upperlevel courses. If you are thinking about pursuing a graduate degree in chemistry, you may want to opt for this track as not every post-graduate program has adopted the new ACS curriculum guidelines. These programs may expect a more traditional undergraduate set of courses. In addition to the mandatory courses shown in Table 3.7, you will be required to take an additional four classes at the 300level or above. You are strongly encouraged to work closely with your academic advisor to tailor a program of study that will work best for you. This is an ACS-certified option.

| Year | AQ | WQ | SQ |
|----------|-----------------------|-------------------|----------------|
| 3 – Odd | CHE202/204/205 [M][2] | CHE302/303 [M] | CHE304/305 [M] |
| | CHE394 [M] | | |
| | | | |
| | | | |
| 4 – Even | CHE306/307 [M] | CHE320/321 [M][3] | |
| | CHE340/341 [M][3] | | |
| | | | |
| | | | |
| 3 – Even | CHE202/204/205 [M][2] | CHE302/303 [M] | CHE304/305 [M] |
| | CHE394 [M] | | |
| | | | |
| | | | |
| 4 – Odd | CHE306/307 [M] | CHE320/321 [M][3] | |
| | CHE340/341 [M][3] | | |
| | | | |
| | | | |

| Table 3.7: 3 | Standard | Chemistry | course o | options |
|--------------|----------|-----------|----------|---------|
| | | | | |

[M]: Mandatory course for track

[2]: Course may be taken in second year after completion of general chemistry

[3]: Course may be taken in the third year

3.6.4.5 – Synthetic Chemistry track

If you are interested in synthesis, you might want to investigate the Synthetic Chemistry track. This set of courses will provide exposure to synthetic chemistry from both the organic and the inorganic perspectives. The courses in this track are suitable for students thinking of graduate school or those considering working in industry. Table 3.8 shows the mandatory and elective courses you may take to fulfill the requirements of this ACS-certified track.

| AQ | WQ | SQ |
|-----------------------|--|---|
| CHE202/204/205 [M][2] | CHE302/303 [M] | CHE304/305 [M] |
| CHE394 [M] | CHE452 [O] | CHE430 [O] |
| CHE450 [O] | | |
| | | |
| CHE340/341 [M] | CHE326/327 [M] | CHE362 [O] |
| CHE378 [M] | CHE360 [O] | CHE434/435 [O] |
| | CHE320/321 [M][3] | |
| | | |
| CHE202/204/205 [M][2] | CHE302/303 [M] | CHE304/305 [M] |
| CHE394 [M] | CHE326/327 [M] | CHE362 [O] |
| | CHE360 [O] | CHE434/435 [O] |
| | | |
| CHE340/341 [M] | CHE424 [O] | CHE430 [O] |
| CHE378 [M] | CHE452 [O] | |
| CHE422 [O] | CHE320/321 [M][3] | |
| CHE450 [O] | | |
| | CHE202/204/205 [M][2] CHE394 [M] CHE450 [O] CHE340/341 [M] CHE378 [M] CHE378 [M] CHE202/204/205 [M][2] CHE394 [M] CHE394 [M] CHE340/341 [M] CHE378 [M] CHE422 [O] | CHE202/204/205 [M][2] CHE302/303 [M] CHE394 [M] CHE452 [O] CHE450 [O] - CHE340/341 [M] CHE326/327 [M] CHE378 [M] CHE360 [O] CHE302/204/205 [M][2] CHE302/303 [M] CHE202/204/205 [M][2] CHE302/303 [M] CHE394 [M] CHE326/327 [M] CHE304/341 [M] CHE302/303 [M] CHE394 [M] CHE326/327 [M] CHE340/341 [M] CHE360 [O] CHE378 [M] CHE422 [O] CHE422 [O] CHE320/321 [M][3] CHE450 [O] CHE320/321 [M][3] |

Table 3.8: Synthetic Chemistry course options

[M]: Mandatory course for track

[O]: Elective course for track

[2]: Course may be taken in second year after completion of general chemistry

[3]: Course may be taken in the third year

[4]: Course may be taken in the fourth year unless CHE422 or CHE424 is taken as an elective course

3.6.5 – Bachelor of Arts track

The Bachelor of Arts track allows students to combine a rigorous background in chemistry with a minor in a field of choice. If you are interested in sales, for example, you can pursue a B.A. in chemistry and a minor in marketing. As another example, you can combine a B.A. in chemistry with a minor in technical writing. The B.A. degree track requires students to complete both the introductory and foundation levels in the revised curriculum. You are free to select other upper-level chemistry courses to fill out your open electives, but you must make sure that all prerequisites are met. Unlike the B.S. options, the B.A. degree is not certified by the ACS.

| Year | AQ | WQ | SQ |
|----------|-----------------------|-------------------|----------------|
| 3 – Odd | CHE202/204/205 [M][2] | CHE302/303 [M] | CHE304/305 [M] |
| | CHE394 [M] | | |
| | | | |
| | | | |
| 4 – Even | CHE340/341 [M] | CHE320/321 [M][W] | |
| | | | |
| | | | |
| | | | |
| 3 – Even | CHE202/204/205 [M][2] | CHE302/303 [M] | CHE304/305 [M] |
| | CHE340/341 [M] | | |
| | CHE394 [M] | | |
| | | | |
| 4 – Odd | | CHE320/321 [M][W] | |
| | | | |
| | | | |
| | | | |

Table 3.9: Bachelor of Arts course options

[M]: Mandatory course for track

[W]: Offered every spring

[2]: Course may be taken in second year after completion of general chemistry

3.6.6 – Minor in Chemistry

A minor in chemistry may be obtained by taking the following courses:

- CHE130/131 General Chemistry I
- CHE132/133 General Chemistry II
- CHE134/135 General Chemistry III
- CHE202 Applied Probability and Statistics
- CHE204/205 Analytical Chemistry
- CHE230/231 Organic Chemistry I
- CHE232/233 Organic Chemistry II
- One additional chemistry course at the 200-level or above (including laboratory when listed as a co-requisite of a lecture-based course)

If you intend to minor in chemistry, you will be assigned a faculty academic advisor who will help you with issues related to the courses above. To declare a minor in chemistry, please see section 3.2.2 above.

3.6.7 – Combined B.S. / M.S. program

The chemistry department at DePaul offers a combined B.S. / M.S. degree in chemistry that is possible to complete in five years. Any combination of B.S. or M.S. options may be pursued, including biochemistry and polymer/coatings technology. Note that a minimum of 48 quarter hours of graduate-level coursework beyond the undergraduate degree is required, although 12 quarter hours of graduate-level credit may be used to satisfy both degree requirements. Consultation with a chemistry advisor or the director of graduate studies is strongly encouraged beginning no later than the third year in the undergraduate program to make sure the courses chosen will lead to the completion of both degrees in a timely manner. Strictly speaking, a bachelor's degree in chemistry with an undergraduate GPA of no less than 2.75 is required for acceptance into the M.S. program. For students considering this option, a small number of competitive graduate assistantships are available after matriculation into the graduate program.

3.6.8 – Combined B.S. / Ch.E. program

Chemical engineering focuses on the truly applied side of the chemistry profession and is concerned with the design, development, and management of facilities that convert raw materials into useful products. Chemical engineers assume responsibility for the economical use of raw materials, preservation of the environment, and profitability of the operation. While the department itself does not offer a degree program in chemical engineering, it provides the core chemical and allied-field courses for students who wish to complete an engineering degree elsewhere.

One such option for DePaul students can be found in the combined chemical engineering option offered in conjunction with Illinois Institute of Technology (IIT). IIT is a well-known, local institution with a longestablished chemical engineering program. The combined program can be completed in five years, with participants simultaneously earn a B.S. in chemistry from DePaul and a Chemical Engineering (Ch.E.) degree from IIT. Students in the combined program complete their B.S. requirements (standard track, see section 3.6.4.4) at DePaul and then take twenty additional chemical engineering and related courses at IIT. Some components of the Liberal Studies Program are designed to be filled by courses taken at IIT. Students interested in this option must separately apply for admission at IIT, and must indicate that they are interested in the joint chemical engineering program, here. Because all tuition billing is handled through DePaul, students must simultaneously enroll at both institutions during the engineering phase of the program, using special courses that begin with the prefix ICE. Please consult the department's chemical engineering advisor for more details.

3.6.9 – Combined B.S. / M.Ed. five year program

A combined Bachelor of Science and Master of Education program was recently developed between several departments in the college and the School of Education. This program, also known as the TEACH program, gives students the opportunity to earn a bachelor's degree in chemistry and a master's degree from the College of Education in as little as five years. The TEACH program synthesizes specific disciplinary content in chemistry with pedagogical and educational foundations. Completion of the graduate portion of this program will enable you to obtain a Type 09 teaching certificate from the State of Illinois. The certificate allows you to teach chemistry from grades 6 through 12. Student teaching is required in the last academic session of the program. The principal components of the TEACH program are listed in Table 3.10.

| Year | Course | Title | Level |
|----------|---------------------|--|-------|
| Junior | TCH320 ¹ | Exploring Teaching in the Urban High School | I |
| Senior | TCH390 ² | Integrating Educational and Disciplinary Foundations | II |
| | TCH401 | Teaching as a Profession in Secondary Schools | I |
| | TCH414 | The Nature of Science | |
| | TCH424 | Inquiry and Application in Developing Secondary Pedagogy | I |
| Graduate | LSI446 | Psychology and Education of the Exceptional Child | П |
| | SCG406 | Human Development | |
| | TCH454 | Research Methods and Disciplinary Inquiry | |
| | TCH464 | Inquiry and Teaching of Middle Schools | I |
| | TCH474 | Teaching in the High School I | П |
| | TCH484 | Teaching in the High School II | П |
| | TCH495 | Assessment Issues in Secondary Education | |
| | TCH590 | Student Teaching | III |
| | TCH591 | Student Teaching Seminar | |
| | | | |

Table 3.10: Program requirements of the TEACH program

¹ Satisfies Junior Year Experiential Learning component of the Liberal Studies Program

^{2.} Satisfies Senior Capstone component of the Liberal Studies Program

The State of Illinois requires extensive and intensive field experience in schools and working with students and teachers. This is accomplished by completing courses that contain field hours at two levels. Level I experiences will give you the opportunity to make classroom observations and engage with small student groups. Level II experiences allow you to teach short lessons to small student groups

or entire classrooms. Level II also encourages students to work with their supervising teacher on preparing lessons and classroom delivery. Level III experiences correspond to student teaching. You will be assigned to an actual classroom, full time, for a period of at least ten weeks. At this level, you will progressively become more responsible for curriculum development and classroom instruction. Ideally, you will be in complete control of your assigned class by the halfway point of the Level III experience.

To be eligible for this program, you must be a declared chemistry major. In addition, you must have completed 88 quarter-hours (16 quarter-hours if you are a transfer student), your overall GPA must be 3.000 or greater, and you must take TCH320 for Experiential Learning credit. The following items must also be submitted to the Office of Graduate Admission:

- Completed graduate program application
- Completed College of Education supplemental application form available here
- Application fee
- Official transcripts from all college/universities
- Two letters of recommendation (one from a faculty member in Chemistry)
- Statement of purpose indicating professional development goals and related experiences (750 words)

The application deadline is June 15th of your junior year.

You should begin talking about the TEACH program with your faculty academic advisor by the beginning of your junior year. The following faculty member represents all of the natural sciences:

Dr. Bernhard Beck-Winchatz bbeckwin@depaul.edu (773) 325-4545

You may also contact the College of Education for more information:

College of Education The Office of Graduate Admission DePaul University 2400 North Sheffield Avenue Chicago, IL 60614 Voice: (773) 325-4405 Fax: (773) 325-2270 Web: http://education.depaul.edu E-mail: edgradadmissions@depaul.edu

3.7 – Curriculum conversion

Prior to Autumn 2011, the department offered a curriculum that had been around for decades. It contained a broad spectrum of courses and included options for degrees to be ACS-certified, but the certified degrees were difficult to obtain due to a burdensome course load driven by the inception of the current Liberal Studies Program in the late 1990s. Because the department officially adopted a revised curriculum, there may be several students who will be caught in between curricula. The department guarantees that no student will be delayed in graduating due to the new curriculum; it does not extend this guarantee to courses outside the chemistry curriculum (e.g., failure to complete Liberal Studies Program courses on time or fulfill other graduation requirements).

In some cases, the switch to the new curriculum is simply a matter of a course number change. In others, courses in the old curriculum have been completely phased out and substitutions will need to be made. Table 3.11 contains information on how old courses articulate to courses in the revised curriculum.

| Category | Old # | Old Title (New Title) | New # | ACS |
|----------|--------|--|-------|--------------|
| General | 101G | General Chemistry Techniques | 128 | Introductory |
| | 101G | General Chemistry Techniques Lab | 129 | Introductory |
| | 111LEC | General and Analytical Chemistry I | 130 | Introductory |
| | 111LAB | General and Analytical Chemistry I Lab | 131 | Introductory |
| | 113LEC | General and Analytical Chemistry II | 132 | Introductory |
| | 113LAB | General and Analytical Chemistry II Lab | 133 | Introductory |
| | 115LEC | General and Analytical Chemistry III | 134 | Introductory |
| | 115LAB | General and Analytical Chemistry III Lab | 135 | Introductory |
| | 169LEC | Survey of Organic Chemistry | 228 | |
| | 169LAB | Survey of Organic Chemistry Laboratory | 229 | |
| | 171LEC | Mechanistic Organic Chemistry I | 230 | Foundation |
| | 171LAB | Mechanistic Organic Chemistry I Lab | 231 | Foundation |
| | 173LEC | Mechanistic Organic Chemistry II | 232 | Foundation |
| | 173LAB | Mechanistic Organic Chemistry II Lab | 233 | Foundation |
| Organic | 175LEC | Mechanistic Organic Chemistry III | 234 | In Depth |
| Organic | 175LAB | Mechanistic Organic Chemistry III Lab | 235 | In Depth |
| | | (Intermediate Organic Chemistry) | 326 | In Depth |
| | | (Intermediate Organic Chemistry Lab) | 327 | In Depth |
| | 430 | Polymer Synthesis | 430 | In Depth |
| | 434 | Polymer Characterization | 434 | In Depth |
| | 450 | Advanced Organic Chemistry I | 450 | In Depth |
| | 452 | Advanced Organic Chemistry II | 452 | In Depth |
| | 192 | Mathematical Methods of Chemistry | | |
| | | (Applied Probability and Statistics) | 202 | Foundation |
| | | (Nuclear Chemistry) | 310 | In Depth |
| | 210 | Physical Chemistry I | 302 | Foundation |
| | | (Experimental Physical Chemistry I) | 303 | Foundation |
| Physical | 211LEC | Physical Chemistry II | 304 | Foundation |
| | 211LAB | Physical Chemistry Laboratory II | 305 | Foundation |
| | 215LEC | Physical Chemistry III | 306 | In Depth |
| | 215LAB | Physical Chemistry Laboratory III | 307 | In Depth |
| | | (Biophysical Chemistry) | 318 | In Depth |
| | 470 | Advanced Physical Chemistry I | 470 | In Depth |

Table 3.11: Old to new course articulations

| Table | 3.11: | Continued |
|-------|-------|-----------|
| | | continueu |

| Category | Old # | Title | New # | |
|------------------|--------|--------------------------------------|-------|------------|
| Physical | 472 | Advanced Physical Chemistry II | 472 | In Depth |
| | 312 | Quantum Chemistry | 374 | In Depth |
| | 313 | Computational Chemistry | 376 | In Depth |
| | | (Computational Chemistry Lab) | 377 | In Depth |
| | 205LEC | Analytical Chemistry | 204 | Foundation |
| | 205LAB | Analytical Chemistry Lab | 205 | Foundation |
| | 261LEC | Instrumental Chemistry | | |
| | 261LAB | Instrumental Chemistry Lab | | |
| Analytical | 265LEC | Air Chemistry | 264 | In Depth |
| and | 265LAB | Air Chemistry Lab | 265 | In Depth |
| Environmental | 267LEC | Water Chemistry | | |
| | 267LAB | Water Chemistry Lab | | |
| | 269LEC | Solid Waste Chemistry | 268 | In Depth |
| | 269LAB | Solid Waste Chemistry Lab | 269 | In Depth |
| | 356 | Spectral Interpretation | 378 | In Depth |
| Inorganic | 321LEC | Intermediate Inorganic Chemistry | 320 | Foundation |
| Inorganic | 321LAB | Intermediate Inorganic Chemistry Lab | 321 | Foundation |
| | 240 | Introductory Biochemistry | | |
| | 340 | Biochemistry I | 340 | In Depth |
| | 341 | Experimental Biochemistry I | 341 | In Depth |
| | 342 | Biochemistry II | 342 | In Depth |
| | 343 | Experimental Biochemistry II | 343 | In Depth |
| | 344 | Biochemistry III | 344 | In Depth |
| Biochemistry | | (Experimental Biochemistry III) | 345 | In Depth |
| | 442 | Advanced Biochemistry I | 442 | In Depth |
| | 444 | Advanced Biochemistry II | 444 | In Depth |
| | | (Chemical Biology) | 348 | In Depth |
| | | (Medicinal Chemistry) | 360 | In Depth |
| | | (Drugs and Toxicology) | 362 | In Depth |
| | | (Nutrition) | 364 | In Depth |
| | | (Seminar) | 394 | Foundation |
| General/Research | 397 | Research | 397 | |
| | | (Thesis) | 398 | |

If you declared a major in chemistry before Autumn 2011, you will be bound to the old curriculum (see section 3.2.3) unless you re-declare as a chemistry major; specific instructions with regard to re-declaration will be made available at a later date. If you remain bound to the old curriculum, you will need to take courses in the new curriculum that clearly articulate to courses in the old curriculum to complete your major field requirements. In cases where an articulation does not exist, you will need to arrange a meeting with the department chair or the director of undergraduate studies to establish a directive, substitution, or waiver (see section 3.9). In general, a new course that focuses on topics close to one that is no longer offered will be used as a substitution. Courses that carry a higher number can also be used to substitute for one of a lower number. The department expects that upper-level students will have to be handled on a case-by-case basis.

3.8 - Liberal Studies Program

3.8.1 – The Liberal Studies Program

The Liberal Studies Program is the one program that is common to every undergraduate degree program at DePaul. Its many pieces are meant to be taken over a four-year trajectory. Each component of the program shares the same four learning goals: reflectiveness, value consciousness and ethical reasoning, multicultural perspective, and creative and critical thinking. Detailed information about the Liberal Studies Program can be found at its web site here.

The spine of the Liberal Studies Program contains at least one element in each year of your residence at DePaul. For a chemistry major, the courses in the core are:

First year

- Discover Chicago (LSP110) or Explore Chicago (LSP111)
- Focal Point (LSP112)
- Composition and Rhetoric I (WRD103)
- Composition and Rhetoric II (WRD104)

Second Year

• Sophomore Seminar on Multiculturalism (LSP200)

Third Year

• Junior Year Experiential Learning (see section 3.8.2 below)

Fourth Year

• Capstone in the Physical Sciences (CHE330)

Transfer students who bring in more than 30 quarter hours of credit are exempt from LSP110/111 and LSP112. In place of these courses, you would substitute two domain electives (see below) unless you have excess transfer credit in which case one or both of the electives would be waived. These decisions are made by the college office.

In addition to the core courses, you must also take courses in the following learning domains:

- Arts and Literature: 3 courses
- Philosophical Inquiry: 2 courses
- Religious Dimensions: 2 courses
- Self, Society, and the Modern World: 3 courses
- Understanding the Past: 2 courses

These courses are meant to be taken over your tenure as an undergraduate at DePaul. There is no need to try to cram all learning domain courses into your first two years. In fact, it is often a good idea to

spread them out equally to fill in spots in your schedule when you start enrolling in upper-level courses in the major. When searching for learning domain options in Campus Connection, make use of the Liberal Studies Program Requirement filter on the main class search page. Only those courses that are designated as a Liberal Studies Program requirement will count for Liberal Studies credit. For example, if you would like to take an art course to fulfill Arts and Literature credit, make sure the course is designated as an Arts and Literature course. In general, lower numbered courses in any area of study are likely to be courses that count for Liberal Studies credit. If you are in doubt about the Liberal Studies status of a course, please consult with your academic advisor.

3.8.2 Junior Year Experiential Learning options in Chemistry

Chemistry majors may satisfy their 4 credit-hour Junior Year Experiential Learning (JYEL) requirement in the Liberal Studies Program by enrolling in any course in the university that has been approved for this purpose. The department offers three options that will satisfy JYEL requirements for chemistry majors: CHE392 (Internship), CHE397 (Advanced Lab Project), or CHE398 (Chemistry Thesis). General descriptions of these courses are found below.

As mentioned previously, 4 credit-hours of JYEL must be satisfied in order to meet the requirements for degree conferral. The JYEL courses offered by the department are designed to give you a degree of scheduling flexibility. All of the chemistry options may be taken in traditional 4 credit-hour fashion, or in 2 credit-hour segments spread over two academic sessions. The latter option is particularly useful in maximizing your tuition plan and accommodating the time demands of other courses you may be taking at the same time.

3.8.2.1 CHE392 - Internship

Students participating in internship are required to work either part-time (2 credit-hour option) or fulltime (4 credit-hour option) in a non-academic chemistry position, e.g., in a government agency, industrial firm, business, or non-profit organization. Students will be required to formally set up their internships through their employer in consultation with a chemistry faculty member who will serve as their on-campus internship advisor. The position must be proposed to and approved by the Chair of the Department. Prior to enrolling in CHE392, a student must complete the department's internship contract. Actual evaluation and assessment of student performance will be carried out by the faculty internship advisor.

Students are expected to spend between ten and forty hours per week at the internship site (depending upon part-time / full-time status) and will meet weekly with their faculty advisors to describe and discuss their experiences. Faculty advisors will communicate periodically with each student's internship supervisor to make sure that he or she is putting in the appropriate number of hours and performing at an acceptable level.

3.8.2.2 CHE397 – Advanced Lab Project

CHE397 is a comprehensive lab experience designed to introduce students to research methods through open-ended, guided research projects in chemistry. Along the way, students are expected to achieve proficiency with using at least one major analytical instrument in the context of solving a problem

defined by the instructor. In order to fulfill JYEL requirements, students complete either a 20-week project (2 credit-hour option) or a 10 week one (4 credit-hour option). The content and length of the project is determined by the instructor and agreed to by the student through the department's research contract which must be submitted to the department prior to enrollment in the course. Students are assessed on the basis of their performance in the laboratory and the quality of a final report that is submitted at the end of the project. Students may be required to present the results of their work in the form of an oral presentation or a poster. In addition, a two page paper discussing scientific ethics shall be submitted at the same time as the final report.

3.8.2.3 CHE398 – Chemistry Thesis

This course requires faculty-guided experimental exploration of a research topic and both a written (thesis) and an oral (seminar and defense) presentation of results. This course is typically completed in two or three quarters, although it may be completed in one quarter at the discretion of the faculty mentor. As is the case for the department's other JYEL offerings, CHE398 may be taken as a 2 credit-hour or a 4 credit-hour option. Students are expected to gain skills in laboratory techniques and procedures in pursuing answers to a research-based problem centered on laboratory- or field-based research.

Students are usually assessed on the basis of their performance or demonstration of the following: weekly progress reports, first draft of thesis, final thesis, thesis presentation, and thesis defense. A two page paper discussing scientific ethics shall be included in the submission of the thesis to the department is also required.

A completed thesis contract must be submitted to the department prior to enrolling in CHE398.

3.8.3 – Modern Language Option

The Modern Language Option is available to all B.A. students who wish to study a modern language beyond the level necessary to meet his or her program's language requirement and to B.S. students who wish to study a modern language at any level. Students selecting the option may substitute a threecourse language sequence for two domain courses and one open elective. Students may use the Modern Language Option to reduce their requirements by one course among two of the following combinations of learning domains: Philosophical Inquiry or Religious Dimensions; Understanding the Past or Self, Society, and the Modern World; Arts and Literature or Scientific Inquiry (the Scientific Inquiry lab requirement cannot be substituted). Students majoring in one modern language may use the Modern Language Option for study of a second language at the intermediate level or above. The latest information on the Modern Language Option can be found here.

3.8.4 – The Honors Program

The Honors Program is a challenging alternative to the Liberal Studies Program for well-prepared students. Because of its unique nature, the Honors Program should be started in the first year of study at DePaul. You can find more information about the Honors Program here. Alternatively, you can contact the Honors Program at (773) 325-7302 or via e-mail at honorsprogram@depaul.edu. If you are

interested in this program, you will need to submit an application, a link for which can be found on this page.

3.9 – Study Abroad Program

DePaul University offers study abroad opportunities to all its students, including chemistry majors at all levels of study. Details of the program can be found here. One major concern for chemistry majors who would like to partake in study abroad during a regular academic term (i.e., autumn, winter, or spring) is the inability to take yearlong sequences in chemistry or its allied fields. This often means that if you pursue study abroad, you may have to delay their completion of the major by one year unless an alternative is found. If you are considering participating in the Study Abroad Program will need to plan ahead and work with your academic advisor to explore suitable courses to take. For example, one chemistry student was allowed to study for the first course in the biochemistry sequence on his own while he spent an autumn quarter abroad. This student was allowed to take, and subsequently passed, a qualifying exam before he was allowed to take the next course in sequence. The student then earned credit for the first biochemistry course the following autumn. The department will work with you in your effort to study abroad by providing some flexibility without compromising the rigor and quality of your program in chemistry.

3.10 - Directives, Substitutions, and Waivers

Directives, substitutions, and waivers are actions that can be carried out by the department chair (or his or her proxy) to alter graduation requirements within the major. These actions are used to account for exceptions in a student's undergraduate career and are made through the Degree Progress Report tool.

3.10.1 – Directives

A directive is an instruction on an academic record to use unused credit for an open requirement. They are often used to apply previously unarticulated credit for a transfer student to a program requirement. Directives can also be used to apply credit from an unused DePaul course to a program requirement.

3.10.2 – Substitutions

A substitution is basically a swap of one DePaul course for a program requirement. In effect, it behaves like a directive between two DePaul courses.

3.10.3 – Waivers

A waiver is a change that removes a program requirement. Waivers are rarely applied within a major program, but they can be applied in areas like the Liberal Studies Program in situations where excess credit is transferred to DePaul.

3.11 – Upper-level check in

At some point during your third year (after you are expected to surpass 112 accumulated credit hours), you may be contacted by either the department chair or your academic advisor and asked to come in to check your progress towards graduation. These check-in sessions are held for your benefit and are meant to head off any problems that may cause your graduation to be delayed. You should approach this meeting as a normal advising session, bringing with you any records and plans you might have.

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4 – Graduate Students

The degree of Master of Science in Chemistry is designed to prepare students for advanced work in the profession of chemistry, biochemistry, and polymer science. To allow students who work full-time to pursue a M.S. degree at DePaul, most classes are offered at night or on weekends. Students who are planning to pursue the department's combined B.S. / M.S. program (see section 3.6.7 above) should contact the director of graduate studies as undergraduate juniors to determine whether or not they can begin courses that are applicable toward a graduate degree.

4.1 – Admission requirements

To be considered for admission into the department's graduate program in chemistry, you must have the following:

- A Bachelor of Science (or equivalent) degree in chemistry
- Undergraduate grade point average of at least 2.75
- At least two letters of recommendation
- For international students, demonstration of proficiency in the English language.

Specific details on the department's graduate admission policies can be found here.

4.2 – Conditional admission

An applicant may be admitted conditionally to the program at the discretion of the Chemistry Graduate Committee for one or more of the following reasons:

- Undergraduate grade point average (GPA) is less than 2.75 but the student has shown considerable promise in other areas such as research.
- The applicant is missing one or two of the required courses but otherwise has met all of the criteria for admission; the applicant will be required to complete the missing coursework either at DePaul or comparable institution prior to taking graduate courses for which the missing course(s) is(are) prerequisite.

The Chemistry Graduate Committee will consider other circumstances not included in the above list on an individual basis.

4.3 – How to apply

You are encouraged to apply online here. You may send transcripts, letters of recommendation, TOEFL scores (if applicable), and application fees to:

DePaul University Office of Graduate Admission College of Science and Health 2400 N. Sheffield Avenue 990 West Fullerton Avenue Chicago, IL 60614

You are encouraged to visit the Office of Graduate Admission for information on staff, advising forms

and other resources, as well as graduate admissions. The web site for the graduate office can be found here.

4.4 – Application deadlines

If you obtained your undergraduate degree in the United States, the completed application must be received 45 days (six weeks) before the start of the quarter in which the student proposes to begin study.

If you are an international student, your completed application must be received according to the following deadlines:

- May 1 to begin study in autumn quarter
- September 1 to begin study in winter quarter
- December 1 to begin study in spring quarter

4.5 – Transfer credit

You may transfer up to 20 quarter-hours of coursework towards the M.S. degree as long as the courses articulate with those in the graduate program.

4.6 - Curriculum and graduation requirements

The following program options are available for earning an M.S. degree in the department of chemistry:

- Chemistry (Thesis)
- Chemistry (Non-thesis)
 - Analytical/Physical Track
 - Biochemistry/Medicinal Track
 - Polymer/Coatings Track
 - o Synthetic Track
 - o Standard Track

The official requirements for the completion of each program options above are given in the edition of the graduate bulletin that was in effect at the time of your matriculation. The most current bulletin is available on the Student Records web site here along with a set of archived bulletin copies.

4.7 – Combined B.S. / M.S. program

Information on the combined B.S. / M.S. program may be found in section 3.6.7 above.

4.8 – Graduate assistantships

A small number of competitive graduate assistantships are available each year for full-time graduate students. These assistantships pay for 30 quarter-hours of coursework per year as well as pay an annual stipend. Recipients of graduate assistantships are required to work twenty hours per week for the department during the autumn, winter, and spring quarters. Duties include serving as a teaching assistant in lab, grading, and holding recitation or office hours. Recipient decisions are made no later than **July 1** for autumn of the following school year. Recipients must make satisfactory progress in both departmental work assignments and coursework to maintain graduate assistant status. Any student

interested in an assistantship must complete and submit an application to the graduate program director **prior to June 1** to be considered. Graduate assistantships may be renewed for one year after the first year of service; a renewal application must be submitted **prior to June 1** for consideration.

Application materials for a graduate assistantship may be found here.

4.9 – Academic probation

You must maintain a minimum overall GPA of 2.75 to remain in and graduate from the graduate program in chemistry. If your GPA falls below 2.75, you will be placed on academic probation and given one academic quarter to raise the GPA to 2.75 or above.

4.10 – Graduation with distinction

Students may graduate "with distinction" by earning an overall GPA of 3.75 upon completion of their graduate program, or on the recommendation of the thesis defense committee.

4.11 – Professional conduct, probation, and dismissal

All graduate students are expected to adhere to the Code of Student Responsibility as outlined in the Graduate Student Handbook, which can be found here. Any violation of the Code of Student Responsibility is considered serious and serves as grounds for probation or dismissal at the discretion of the Chemistry Graduate Committee.

4.12 – Director of graduate studies

Contact information for the director of graduate studies is found below:

Quinetta Shelby, Ph.D. Associate Professor of Chemistry Director, Graduate Program in Chemistry DePaul University Department of Chemistry 1110 West Belden Avenue Chicago, IL 60614 Phone: (773) 325-7402 Fax: (773) 325-7421 e-mail: qshelby@depaul.edu

5 – Advising Tools

5.1 – Course transfer list

The university's transfer course list application is available here. You will be required to select a state, institution, and subject. Afterwards, you will be presented with a list of all of the courses in the subject selected that have been articulated to a course at DePaul. In addition, you will see information regarding each course's status with respect to the Liberal Studies Program.

5.2 – U.Select

The U.Select web site (https://www.transfer.org/uselect/) is another good source of information regarding course articulations between institutions of higher learning. The university contributes course articulation information to this organization and it is a good tool to use to scope out articulations between schools. You may need to set up a free account to use this service.

5.3 – Advising Center

The Advising Center is a dashboard application for faculty academic advisors. It combines all advisingrelated tools in one location. The tools include placement test reports, unofficial transcript, degree progress, holds, course planner, and a convenient note application. Faculty can also set up availability appointments and send e-mail through the Advising Center. To access the center, sign on to Campus Connection and select the **Advising Center** tab.

5.4 – Student Center

The Student Center is the dashboard application that is analogous to the Advising Center (see section 5.3). This is a one-stop shop for all kinds of student related academic activity, including advising information. To access the center, sign on to Campus Connection and select the **Student Center** tab.

6 – Other Advising Support

When you find yourself in situations that fall outside the realm of traditional academic advising, academic advisors in the department may refer you to other advising-related offices that may lend you, and your advisor, a helping hand. The following sections contain descriptions of what these offices do and how to contact them.

6.1 – Office for Academic Advising Support (OAAS)

The Office for Academic Advising Support (OAAS) empowers students to make academic choices that incorporate their individual interests, values, and skills. They provide holistic advising and major exploration services to undeclared and exploratory students, and they advise newly admitted transfer students as they transition to DePaul. Additionally, OAAS provides advising support services to the DePaul community and fosters university-wide collaborations with faculty and staff to enhance advising experiences for DePaul students. For additional information about OAAS and their services, please consult their web site (http://oaas.depaul.edu/) or contact Dr. Chimon-Peszek, the department's liaison to OAAS (speszek@depaul.edu).

6.2 – Pre-Health Advising

Students who are interested in pursuing a career in health-related professional fields should consider contacting the Pre-Health Advising Committee (PAC). PAC is comprised of an interdisciplinary body of faculty and staff whose primary function is advising of students intending to pursue a career in a health profession. PAC's services are available to all current and recently graduated DePaul students provided they have registered with PAC.

As of this revision of the handbook, the mission and structure of PAC is undergoing minor changes to better serve students as an official committee under the umbrella of the College of Science and Health. Because of this, the most recent information about PAC should be obtained directly from its web site here.

6.3 - Students with Disabilities

Students who feel they may need an accommodation based on the impact of a disability should contact the instructor privately to discuss their specific needs. All discussions will remain confidential.

To ensure that you receive the most appropriate reasonable accommodation based on your needs, contact the instructor as early as possible in the quarter (preferably within the first week of class), and make sure that you have contacted the Center for Students with Disabilities (Lincoln Park Student Center, room 370, 773-325-1677).

6.4 – Other contacts

- University Counseling Services (5-7779)
- Community Resource Specialist (5-4857)
- Sexual Violence Support Services (5-7295)

- Substance Abuse Prevention Specialist (5-4550)
- DePaul Health Services (773-549-7757)
- LGBTQA Student Services (5-7294)

7 – Activities and Events

The Department of Chemistry regularly hosts a number of events, such as "Life After DePaul" (Autumn Quarter) and the Annual Awards and Research Symposium (Spring Quarter). It regularly bring in guest speakers for research seminars, and the Chemistry Club (a student run organization) holds regular events and activities, as well.

Please check your e-mail for announcements about our activities or events. Announcements are also posted on the digital monitor in the main office!

8 – Logistics

8.1 – New faculty training

To quickly become competent in advising majors, new faculty members are encouraged to volunteer for summer advising as soon as they feel comfortable with doing so. Summer advising training provides an overall understanding of Liberal Studies Program requirements as well as the required courses for chemistry majors including allied field requirements. A thorough understanding of the chemistry curriculum can also obtained by pairing a new faculty member with an experienced colleague in actual advising sessions and having new faculty complete mock four-year course plans for chemistry majors in various tracks. The department chair or the directors of the undergraduate and graduate programs serve as the ultimate backup to any curriculum-related questions new faculty may have.