The purpose of this manual is to bring together pertinent information essential for graduate students in the Forensic Science Masters Program at Florida International University. It is intended to supplement and help clarify the guidelines and requirements for graduate study at the university and the specific policies and procedures within the MSFS program. In no way is this manual intended to override or substitute any of required policies and procedures established by the University Graduate School. It is the student’s responsibility to understand and follow the University and MSFS policies and procedures. The student is responsible for making certain all requirements have been met within the established deadlines. Each student must submit the signed statement to the graduate program secretary for inclusion in the student’s file.

I have received and read the MSFS Policies and Procedures Manual.

Name ___________________________ Signature ___________________________ Date ___________________________
1. Graduate Admission Requirements and Procedures

1.1 Graduate Admission Requirements

A minimum undergraduate grade point average of 3.0/4.0 in chemistry, biology or the equivalent and cognate science is required except by special permission of the graduate committee. In addition, the GRE score must be submitted as part of the application. The admissions/evaluation committee for the MSFS expects the equivalent of a minimum 1000 (verbal + quantitative) from the former GRE scale or greater than ~ 40% rank for both verbal and quantitative scores for test-takers in the year of application (equivalent to 149 verbal and 149 quantitative in 2013, for example). Students whose native language is not English must score 550 or higher on the Test of English as a Foreign Language (TOEFL). Two letters of reference and official undergraduate transcripts are also required.

Students not meeting minimal FEPAC requirements for appropriate background for a forensic BS degree may be required to take additional classes to make up deficiencies in their education at the discretion of the Forensic Graduate Committee.

Note: Students aspiring to work in the field of forensic science are normally required to undergo a thorough background check. A past criminal record (arrests and/or convictions) will usually disqualify a person to work in this field. In addition, most forensic science employers will not hire anyone with a history of illicit drug abuse.

Minimal FEPAC requirements include

1. Biology: At least one course including a laboratory (4 semester hours) in biology for science majors. (Biochemistry is an appropriate substitution for this class)
2. Physics: At least 2 classes each including an associated laboratory (8 semester hours) in physics for science majors. Calculus based physics is preferred but not required.
3. Chemistry:
   a. General chemistry: At least 2 classes each including an associated laboratory (8 semester hours) in chemistry for science majors.
   b. Organic Chemistry: At least 2 classes each including an associated laboratory (8 semester hours) in organic chemistry for science majors.
4. Mathematics
   a. Calculus At least 1 class in differential and integral calculus (3 semester hours)
   b. Statistics At least 1 class (3 semester hrs)

In addition, the following requirements also apply

1. Students interested in forensic chemistry should have coursework in quantitative analysis, instrumental analysis and physical chemistry
2. Students interested in forensic biochemistry should have coursework in genetics, molecular biology and biochemistry.
1.2 Application Procedures

Prospective candidates must submit an application for admission to the graduate program online ($30) at http://www.fiu.edu/gradadm. Additional departmental information is available online at http://www.fiu.edu/orgs/chemistry. Applicants must also arrange to have official transcripts from all colleges and/or universities attended and official test scores (GRE, plus TOEFL as a foreign student and TSE if a foreign student applying for financial support) sent to the Admissions Office. Transcripts in a language other than English must be accompanied by an official English translation. Three letters of recommendation and a statement of purpose must be submitted with the application materials. Students should indicate their interest in the MSFS program.

Florida International University has a rolling admissions policy. When the Admissions Office receives an application, application fee, transcripts and GRE, TOEFL, and TSE scores, they are forwarded to the Forensic Science Graduate Committee for evaluation. Formal admission to the MSFS program is granted by the Forensic Science Program Director in consultation with the Forensic Science Graduate Committee. The MSFS program normally accepts students at the beginning of each Fall semester but may consider Spring admissions under special circumstances. For full consideration, all application materials must be received before Feb. 15 for Fall admission. Applications received after these dates and up to May 15 will be reviewed and may be accepted depending on availability.

1.3 Program Requirements (Report Option)

General Coursework Requirements: The Master in Forensic Science program requires the satisfactory completion of a variety of lecture courses including a minimum number of core courses. Full-time M.S. students must register for 9 credits in the first semester (except for summer admits who register for 6 credits) and subsequently 9 credits each fall and spring semester and 6 credits during the summers. Those on assistantship (TA) must register for 10 credits the first semester. Part time MSFS students must register for a minimum of 1 credit each semester or be dismissed from the program.

A maximum of six credits of post-baccalaureate coursework may be transferred from other institutions, subject to the approval of the Graduate Committee.

Report Option Required courses

- BSC 5406 Forensic Biology (3) (Fall)
- CHM 5542 Forensic Chemistry (3) (Spring)
- CHM 5535 Forensic Analysis (3) (Fall)
- CHS 5539 Forensic Toxicology (3) (Forensic Chemistry Track), or
  PCB 5665 Human Genetics (3) (Forensic Biology Track)
• CHM 5165 Sampling and Chemometrics (3) (Forensic Chemistry Track), or DNA Population Statistics (3) (Forensic Biology Track)

• CHM 6935 Thesis Proposal Seminar (1) (First Spring semester in residence)

• CHM 6970 or BSC 6971 Thesis (minimum of 6 credits required)

• CHS 6905 Independent Study in Forensic Science (3 Minimum)

• CHM 6935 Graduate Seminar (1) (during the semester of graduation)

Electives (12 minimum)

The following elective courses are suggested for each sub-discipline.

Workshops, laboratories, independent study, and internships (up to 6 credits) may also be used for elective credits. (see course list)

**Forensic Chemistry Track**
Drug Chemistry (alternative to Forensic Toxicology for the Forensic Chemistry Track)
- Arson and Explosives
- Chromatography
- Advanced Mass Spectrometry
- Advanced Analytical Chemistry
- Organic Spectroscopy and Structure Elucidation
- Advanced Biochemistry
- CHS 6945 internship (up to 6 credits)

**Forensic Biology Track**
- Human Genetics PCB 5665 (3)
- DNA Population Statistics (3)
- Forensic DNA typing
- Graduate Biochemistry
- Molecular Biology
- Chromatography
- Nucleic Acid Chemistry
- Bioinformatics
- CHS 6945 internship (up to 6 credits)

Credits taken at the 4000-level beyond six, or at a lower levels, will not count towards graduation. Chemistry, Biology, Physics, Statistics, Geology, Criminal Justice, Legal Psychology, and Medical Laboratory Sciences courses may serve as electives with approval from the student’s committee.

Students should be familiarized with specific course requirements for their subdisciplines. (DAB, SWGDRG, and SWGDAM which specify training guidelines for analysts.) For example DNA analysts should have graduate and undergraduate coursework in molecular biology, genetics, biochemistry and statistics as it relates to population genetics. Forensic Chemistry students must take either Forensic Toxicology or Forensic Analysis of Drugs.
Research Proposal Seminar (Report Option)

During the second semester of full attendance, (6-9 credits passed) a student must sign up for and present a research proposal as part of the following class CHM6936. Students off campus who cannot attend this class must visit the school during this time and present a research proposal.

The first semester coursework will be determined in consultation with the graduate program director. Once a thesis/dissertation advisor has been chosen, this person will assist the student as to which courses should be taken in accordance with the policies established by the department and the university.

1.4 Meeting the faculty and choosing a research advisor

The purposes of this requirement are for the students and faculty members to meet and for the students to learn about the research projects of individual faculty members. New students during their first semester must meet each active faculty member in the MSFS program and submit to the graduate program director the mentor selection form (form 6.4 in the attached Appendix) signed by the faculty members the student has interviewed (minimum of 5 research faculty must be interviewed). Once the student has received a signature from at least five faculty members, he/she must submit the mentor selection form (attached in the appendix), signed by both he student and selected advisor. Final approval and acceptance must be obtained before beginning formal work with the agreed upon research advisor. Report option students must submit a memo to the graduate program director that communicates 1) that the student has selected the report option and 2) identifies selected mentor and a second committee member, selected in consultation with the faculty mentor before the end of the first semester in residence. The graduate program director will also serve as the third member of the report option student faculty committee.

1.4.1 Graduate faculty must meet the following requirements to serve as major professor for a given MSFS student:

- Be approved by FIU to mentor graduate students.
- Have specialized academic competence in the student’s major field.
- Have published an article in a peer-reviewed journal in the last three years or had research funding during the last three years.

1.4.2 Choosing the student advisory committee

The advisory committee shall consist of the student’s advisor one other graduate faculty with expertise in the research topic selected by the student and the graduate program director. The advisory committee is selected by the student, in consultation with their advisor. The purpose of the faculty advisory committee is to guide the MSFS student through their research project.
1.5 Research Proposal Seminar
During the second semester in residence, the MSFS students shall register for a “Chemistry Colloquium” (CHM6936) section. Each student will be required to present a 20-25 minute public seminar describing the proposed research to be conducted in partial fulfillment of the degree requirements. All the members of the student’s faculty advisor committee must attend the proposal seminar. In addition, a 5-page written proposal describing the research must be submitted to the committee. The committee will evaluate the research proposal with the form found in the appendix.

It is the student’s responsibility to bring all the necessary forms ready for signature and to submit the forms along with the final and corrected proposal to the instructor of the CHM6936 class before the end of the semester. The student will receive a letter grade for this 1-credit course based on feedback from both the instructor and his/her committee.

1.6 Annual Graduate Student Evaluation

Every MSFS thesis student enrolled in the program shall undergo a yearly evaluation to be conducted by his/her graduate committee by April 30 of every year. The purpose of this evaluation is to provide feedback to the student on his/her progress towards graduation as well as to document student performance for the research advisor, research committee, graduate program director and the Graduate Dean of the College of A&S to review. This evaluation may be conducted at the same time as the research proposal presentation gathering (see 1.5 above). The form is attached to this manual as an appendix.

1.7 Report

Upon completion of all the coursework, the research proposal and all the research requirements, the student must prepare and submit a research report to the graduate chair of the forensic science program and sign up for CHM 6935. This report must be prepared using the guidelines for submission as a paper to the Journal of Forensic Sciences (or similar scientific journal) and should be judged acceptable by the faculty advisory committee composed of (1) the student’s advisor, (2) an independent graduate faculty member of FIU and (3) the Graduate Program Director of the MS in Forensic Sciences. Faculty may not serve on the committee of a student when a conflict of interest exists; this includes personal and/or business relationships. In event the members of this group do not agree, the student’s report is to be submitted to the forensic graduate committee for formal arbitration.

1.8 Active Status and Time Limitations

Active status in good standing entitles students to utilize the University's resources. To maintain active status in the M.S. program, students must register for a minimum of one (1) credit per semester, summer semester included. Lapses in enrollment for two or more consecutive semesters will result in a student being dismissed from the program. All
requirements for the M.S. degree, including the successful defense of a thesis, must be completed within six years of first enrollment in the program, inclusive of any leaves of absence or other interruptions of active student status. Students who do not complete their thesis within this time period may apply for an exception to this rule by filing a Request for Exception form to the Dean of the Graduate School.

2. **General Information**

2.1 **Financial assistance**

2.1.1 Various forms of financial assistance are available to graduate students at FIU. Recommendations for aid as well as admission into the program are based on the initial ranking of new students by their GRE and GPA scores. In addition, graduate students are encouraged to apply for external support for their graduate work (e.g., Sigma Xi, NSF, etc.). Proposals to funding agencies must have the approval of the Department of Chemistry and, in some cases, the Division of Sponsored Research. Graduate stipends for TA's and RA's and some tuition fee waivers (partial and full) are available to eligible students.

2.1.2 Graduate teaching assistantships are not offered to MSFS students but MSFS students may be offered research assistantships or graduate assistantships. Satisfactory progress toward the degree is a condition of renewal of any financial aid, including assistantships. Students will be notified each academic year regarding renewal of an assistantship, amount of stipend/tuition waiver and responsibilities for the following term.

2.2 **Guidelines for graduate assistantships including Gas, TAs and RAs**

2.2.1 Research assistantships (RAs) are intended to:

- provide financial support for graduate students working toward their M.S. or Ph.D. degrees.
- give graduate students the opportunity to obtain university research experience under the guidance of departmental faculty. Specific research duties are assigned by the major professor.

2.2.2 Teaching assistantships are intended to:

- provide financial support for graduate students working toward their M.S. or Ph.D. degrees.
- give graduate students the opportunity to obtain university teaching experience under the guidance of departmental faculty. Specific requirements for a TA will be determined by the faculty member to whom they are assigned.
- enable the department to meet the teaching demand of multiple-section high-enrollment laboratory courses.

2.3 **Duties of teaching assistants (TAs)**

2.3.1 Teaching Assistants are typically assigned for 20 hours per week, usually 2-3 sections of a laboratory class during the academic year. Students will be paid in
bi-weekly paychecks. Assigned duties may include:

- supervision of 2-3 laboratory sections per week. Since some laboratory courses meet for differing lengths of time, alternate duties may be added or subtracted to ensure that TA effort workloads are equally distributed.
- grading of lecture- or laboratory-related quizzes, exams, reports, etc.
- attendance at weekly laboratory meetings and/or course-related lectures
- preparation and organization of laboratories
- consultation and office hours with students
- proctoring and grading of lecture exams
- attendance of workshops and meetings held by the department as required for training and coordination.

2.3.2 Teaching assistants are required to enroll in 1-2 credits of supervised teaching CHM 6940. The course may include teaching orientation and regular meetings to address teaching issues throughout the semester and all TAs are required to attend.

2.4 Evaluation of TAs

TA's will receive an evaluation from students in every laboratory that they teach. Copies of the student evaluations and any student comments are also added to the student's file and sent to the faculty member that supervised the TA within 60 days of the end of the semester. Graduate students who have also enrolled in CHM 6940 to fulfill the teaching requirement for the Ph.D. degree will also receive a P/F grade based on their performance in teaching. Faculty members must submit to the Chemistry Graduate Program Director written evaluations for each TAs. These evaluations are added to the student's file.

2.5 Obtaining Florida Residency

2.5.1 To be considered for Florida residency, the student must be a U.S. citizen or legal alien, and independent (i.e. your parents do NOT claim you on their taxes and you file your own taxes). To apply, the following information and any other documentation proving your ties to the state of Florida must be taken to the Registrarís Office to be reviewed. All of the following documents must be dated one year prior to the time that you apply for residency. Therefore, it is extremely important to get the following items BEFORE YOUR FIRST SEMESTER BEGINS.

2.5.2 Proof of Residency:

- Florida Driver’s License
- Voter’s Registration Card;
- Florida Vehicle’s Registration
- Declaration of Domicile (from a Dade County Court and signed by a Notary Public of Florida)
- Proof of Independence (ex. Tax forms)
- Permanent Employment (ex. show contract)
- Residence during periods of non-enrollment
- Lease/Own Home/Own Property
Checking Account with a Florida Bank

2.5.3 Obtaining Florida residency is mandatory for any student eligible US citizen or legal/permanent resident who is seeking financial support from the department. The department will only pay an eligible U.S student’s out-of-state tuition for one academic year; otherwise, the increased fees are the burden of the student.

2.6 Withdrawal/leaves of absence/re-admittance
2.6.1 Graduate students who have not been registered for two consecutive semesters, including the summer session, will be dropped from the graduate program and must apply for re-admission through the Admissions Office.

2.6.2 If a student finds it necessary to be excused from registration in a the program for two or more consecutive semesters he/she must formally request a leave of absence from the graduate program. Leave will be granted only under exceptional circumstances. When the student returns from a leave of absence, decisions concerning previous or current programs of study will be mutually agreed upon by the graduate committee, the student's thesis committee and the student.

2.6.3 A leave of absence does not extend the amount of time allotted for degree completion. The six years for the MS and nine years for the Ph.D. are calculated from the entry date in the program and do not take absence from the program into account. Student who have been dismissed from the program may not be considered for re-admission into the program within a year.

2.7 Research and Patents
The results of a graduate student's research could lead to a patent and the payment of royalties. The University claims no rights to patent royalties if the research is performed in a laboratory outside of the University under close cooperation with an outside advisor. The University insists, however, that the student receive a fair share of any financial benefits from such a patent. If the patented work is done in a University laboratory with the frequent consultation of regular faculty, the University may claim a portion of the royalty. Negotiations on such claims will be conducted by the Provost's Office.

2.8 Forgiveness policy

2.8.1 A forgiveness policy is a way in which a student may repeat a limited number of courses to improve his or her GPA by having only the grade received on the last repeat used in its calculation. Graduate students must follow the procedures described in the FIU Graduate Catalog to utilize the University's forgiveness policy.

2.8.1 Graduate students may repeat no more than two courses with no course being repeated more than once. The course shall be repeated on a letter grade basis. Only the grade and credit received on the second attempt shall be used in computing the graduate GPA. The original grade will remain posted on the student's permanent record.
2.9 Transfer of graduate credits

Official request for consideration of transfer credits must be submitted to the graduate committee within two semesters of the student’s entry into the graduate program.

2.10 Rights and responsibilities

The University has developed policies and procedures on the rights and responsibilities of students and a code of conduct assuring that these rights may be freely exercised without interference or infringement by others. The code of conduct, academic misconduct policies, student grievance procedures and policies on student records are reported in detail in the University publication Rights and Responsibilities of Students. All administrative procedures and time deadlines must be met, whether or not they are specifically mentioned in this document. Students must operate within the rules and guidelines of the Graduate Policy and Procedures Manual, Graduate Catalog and the Regulations for Thesis and Dissertation Preparation Manual. Accordingly, graduate students should obtain copies of these publications from the Graduate Studies Office or visit the Graduate Division website (www.fiu.edu/~gradstud/) and be familiar with their contents.
3. Appendix 1 Meeting and Interviewing Faculty Form

Master of Science in Forensic Science Program
Choosing a Forensic Science Research Advisor

Every MS in Forensic Science student must complete a research project ending in a thesis or report in order to fulfill the requirements for graduation. Below please find the names of some faculty you may select as your faculty mentor for research. Please take the time to research your top choices carefully and then go to interview as many faculty as necessary for you to make a selection. You MUST select your advisor AND form your research committee (2 other faculty members) before the Thanksgiving break.

<table>
<thead>
<tr>
<th>Faculty Name</th>
<th>Location</th>
<th>Phone no.</th>
<th>Faculty Signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jose Almirall</td>
<td>OE116 A</td>
<td>348-3917</td>
<td></td>
</tr>
<tr>
<td>Yong Cai</td>
<td>CP 315</td>
<td>348-6210</td>
<td></td>
</tr>
<tr>
<td>Kenneth G. Furton</td>
<td>Provost Office</td>
<td>348-2292</td>
<td></td>
</tr>
<tr>
<td>Piero Gardinali</td>
<td>BBC Campus</td>
<td>348-6345</td>
<td></td>
</tr>
<tr>
<td>Rudolf Jaffe</td>
<td>BBC Campus</td>
<td>348-2456</td>
<td></td>
</tr>
<tr>
<td>Francisco Lima</td>
<td>CP 331</td>
<td>348-3121</td>
<td></td>
</tr>
<tr>
<td>Anthony Decaprio</td>
<td>OE116 B</td>
<td>348-2419</td>
<td></td>
</tr>
<tr>
<td>Bruce McCord</td>
<td>CP 313</td>
<td>348-7543</td>
<td></td>
</tr>
</tbody>
</table>

| Biochemistry          |                |           |                   |
| Bruce McCord          | CP 313         | 348-7543  |                   |
| Fenfei Leng           | CP 317         | 348-3081  |                   |
| Watson Lees           | CP 314         | 348-2871  |                   |
| Yi Xiao               | CP 306         | 348-4536  |                   |
| John Berry            | CP346          | 348-3525  |                   |
| Joongho Moon          | CP-338A        |           |                   |

| Biology               |                |           |                   |
| Dee Mills             | OE 116C        | 348-7410  |                   |
| Jeff Wells            | OE 203         | 348-1320  |                   |
| Kalai Mathee          | AHC1 441A      | 348-1261  |                   |

For a complete list of IFRI-Affiliated faculty, go to: http://ifri.fiu.edu/faculty/

I choose ____________________ as my Major Professor and research advisor

________________________    ____________
Student signature         Date

________________________    ____________
Major Professor’s signature Date

________________________    ____________
Graduate Program Director’s signature Date
**Appendix 2. Course Checklist**

*Student Name:*

<table>
<thead>
<tr>
<th>M.S. Schedule/Courses</th>
<th>Credits</th>
<th>Course No</th>
<th>Required?</th>
<th>Expected completion</th>
<th>Completed Date</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Formation of Committee</strong></td>
<td></td>
<td></td>
<td>Yes</td>
<td>BEFORE Thanksgiving break, 3 members</td>
<td></td>
</tr>
<tr>
<td><strong>Preliminary Proposal (5-page)</strong></td>
<td></td>
<td></td>
<td>Yes</td>
<td>Beginning of the 2nd term/no later than end of 2nd term</td>
<td></td>
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<tr>
<td><strong>Research Proposal Seminar</strong></td>
<td>1</td>
<td>CHM 6936</td>
<td>Yes</td>
<td>Beginning of the 2nd term/no later than end of 2nd term</td>
<td></td>
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<tr>
<td><strong>Thesis Research</strong></td>
<td>3 (min.)</td>
<td>CHS6905</td>
<td>Yes</td>
<td>Start in the second semester</td>
<td></td>
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<tr>
<td><strong>Graduate seminar</strong></td>
<td>1</td>
<td>CHM 6935</td>
<td>No</td>
<td>Take any semester</td>
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<tr>
<td><strong>Core Courses (Required)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forensic Chemistry</td>
<td>3</td>
<td>CHS 5542</td>
<td>Yes</td>
<td>Spring (Instrumental methods as pre-requisite)</td>
<td></td>
</tr>
<tr>
<td>Forensic Biology</td>
<td>3</td>
<td>BSC 5406</td>
<td>Yes</td>
<td>Fall (Biochemistry as pre-requisite)</td>
<td></td>
</tr>
<tr>
<td>Forensic Analysis</td>
<td>3</td>
<td>CHS 5535</td>
<td>Yes</td>
<td>Fall</td>
<td></td>
</tr>
<tr>
<td><strong>Electives</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forensic Toxicology</td>
<td>3</td>
<td>CHS5539</td>
<td>Elective</td>
<td></td>
<td></td>
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<tr>
<td>Forensic Chemistry Laboratory</td>
<td>1</td>
<td>CHS 5541L</td>
<td>Elective</td>
<td>Fall</td>
<td></td>
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<tr>
<td>Workshop in Chemical Analysis</td>
<td>1 or 2</td>
<td>CHS 5538</td>
<td>Elective</td>
<td>Spring</td>
<td></td>
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<tr>
<td>Trace Evidence Workshops</td>
<td>2</td>
<td>BSC Elective</td>
<td>Summer</td>
<td></td>
<td></td>
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<tr>
<td>Chemistry and Analysis of Drugs</td>
<td>3</td>
<td>CHS 5536</td>
<td>Elective</td>
<td>Spring</td>
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<tr>
<td>Forensic DNA Chemistry</td>
<td>3</td>
<td>CHS5536</td>
<td>Elective</td>
<td>Summer</td>
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<tr>
<td>Explosives &amp; Fire Evidence Analysis</td>
<td>3</td>
<td>CHS5545</td>
<td>Elective</td>
<td>Fall</td>
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<tr>
<td>DNA Typing Workshop</td>
<td>2</td>
<td>BSC Elective</td>
<td>Summer</td>
<td></td>
<td></td>
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<tr>
<td><strong>Chemistry Electives</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advanced Analytical Methods</td>
<td>3</td>
<td>CHM 6166</td>
<td>Elective</td>
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<tr>
<td>Sampling and Chemometrics</td>
<td>3</td>
<td>CHM 5165</td>
<td>Elective</td>
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<td>Mass Spectrometry</td>
<td>3</td>
<td>CHM 5138</td>
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<tr>
<td>Advanced Chromatography</td>
<td>3</td>
<td>CHM 5156</td>
<td>Elective</td>
<td></td>
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<tr>
<td><strong>Biology Workshops</strong></td>
<td></td>
<td></td>
<td></td>
<td>(up to 6 credits of 1 or 2 credit workshops may be substituted for electives)</td>
<td></td>
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<tr>
<td>Cloning DNA</td>
<td>2</td>
<td>MCB 5315C</td>
<td>Elective</td>
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<tr>
<td>DNA Sequencing</td>
<td>1</td>
<td>BCH 6133C</td>
<td>Elective</td>
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<tr>
<td>Molecular Techniques Lab</td>
<td>2</td>
<td>PCB 5025</td>
<td>Elective</td>
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<tr>
<td>Microbial Community workshop</td>
<td>1</td>
<td>BSC 5935</td>
<td>Elective</td>
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<tr>
<td>Biology Electives</td>
<td>3</td>
<td>PCB 6025</td>
<td>Elective</td>
<td></td>
<td></td>
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<tr>
<td>-----------------------------</td>
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<tr>
<td>Molecular &amp; Cellular Biology I</td>
<td>3</td>
<td>PCB 6025</td>
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<tr>
<td>Introduction to Biological Research</td>
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<td>BSC 6457</td>
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<td>Population Genetics</td>
<td>3</td>
<td>PCB 5685</td>
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<tr>
<td>Human Molecular Genetics</td>
<td>3</td>
<td>PCB 5665</td>
<td>Elective</td>
<td></td>
<td></td>
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</tbody>
</table>

**To graduate** 32 (min.)