Special Programs

A great university must, while retaining the traditional programs at the heart of a modern education, expand beyond them to meet the wide-ranging needs of its students. FDU offers combined degree programs, allowing students to earn undergraduate and graduate degrees in less time than traditional routes; honors programs for students of top academic abilities; overseas campuses where students learn about other cultures while studying their academic disciplines; special degree-granting programs for adult learners; Reserve Officers' Training Corps programs; preprofessional degree options; and internships and cooperative studies offered in conjunction with business and industry, which offer students experience in the working world of their chosen fields.

Combined Degree Programs

The University, keeping in mind the needs and aspirations of its best students, offers a variety of programs specially tailored to bring out the best in them.

Several programs allow students to combine graduate and undergraduate degrees in less time than it would take if each were to be pursued separately. They include:

Baccalaureate/Master

- Bachelor of Arts/Master of Public Administration (five years), see page 207;
- Bachelor of Arts or Science/Master of Arts in Teaching combined degree (five years), see page 208;
- Bachelor of Arts or Science/Master of Arts in Teaching with a Dual Certification in Elementary, Secondary or Early Childhood Education and Special Education (five years), see page 210;
- Bachelor of Arts or Science/Master of Arts in Teaching with a Dual Certification in Elementary or Secondary Education and English as a Second Language (five years), see page 213;
- Bachelor of Arts in communication studies/Master of Arts in communication, (accelerated) see page 214;
- Bachelor of Arts in creative writing/ Master of Fine Arts in creative writing, see page 215;
- Bachelor of Arts in criminal justice/ Master of Arts in criminal justice, see page 215;
- Bachelor of Arts in criminology/ Master of Arts in criminal justice, see page 215;
- Bachelor of Arts in film and animation/Master of Arts in animation, see page 216;
- Bachelor of Arts in film and animation/Master of Fine Arts in animation (accelerated), see page 217;
- Bachelor of Arts in history/Master of Public Administration (five years), see page 218;
- Bachelor of Arts in political science/ Master of Arts in criminal justice (five years), see page 218;
- Bachelor of Arts in political science/ Master of Arts in political science (five years), see page 219;
- Bachelor of Arts in political science/ Master of Public Administration (five years), see page 220;
- Bachelor of Arts in psychology/ Master of Arts in forensic psychology (five years), see page 221;
- Bachelor of Arts in psychology/ Master of Arts in general/theoretical psychology (five years), see page 222;
- Bachelor of Arts in psychology/ Master of Arts in industrial/organizational psychology (five years), see page 223;
- Bachelor of Arts in psychology/ Master of Social Work with New York University (five years), see page 224;
- Bachelor of Arts in sports administration/Master of Sports Administration (five years), see page 225;
- Bachelor of Science in accounting/ Master of Science in accounting (five years), see page 227;
- Bachelor of Science in accounting/ Master of Business Administration see page 228;
- Bachelor of Science in biochemistry/ Master of Science in applied clinical nutrition with School of Health Sciences and Education, New York Chiropractic College (five years), see page 228;
- Bachelor of Science in biochemistry/ Master of Science in chemistry with a concentration in pharmaceutical chemistry (five years), see page 229;
- Bachelor of Science in biochemistry/ Master of Science in cosmetic science (five years), see page 230;
- Bachelor of Science in biology/Master of Science in acupuncture and oriental medicine with Finger Lakes School of Acupuncture and Oriental Medicine, New York Chiropractic College (five years), see page 232;
- Bachelor of Science in biology/Master of Science in biology (five years), see page 233;
- Bachelor of Science in business administration or entrepreneurship or finance or management or marketing/Master of Business Administration in accounting or business administration or entrepreneurship or finance or information systems or international business or management or marketing or pharmaceutical management, see page 234;
- Bachelor of Science in business administration or entrepreneurship or finance or management or marketing/Master of Science in accounting or supply chain management or taxation, see page 234;
- Bachelor of Science in chemistry/ Master of Science in chemistry with a concentration in pharmaceutical chemistry (five years), see page 235;
- Bachelor of Science in chemistry/ Master of Science in cosmetic science (five years), see page 237;
- Bachelor of Science in computer science/Master of Science in computer science (five years), see page 238;
- Bachelor of Science in computer science/Master of Science in management information systems (five years), see page 239;
- Bachelor of Science in Electrical Engineering/Master of Science in computer engineering (five years), see page 240;
- Bachelor of Science in Electrical Engineering/Master of Science in Electrical Engineering (five years), see page 241;
- Bachelor of Science in hotel and restaurant management/Master of Science in hospitality management studies (five years), see page 242;
- Bachelor of Science in information technology/Master of Science in computer science (five years), see page 243.

Baccalaureate/Doctorate

• Bachelor of Science in biochemistry/Doctor of Pharmacy with FDU School of Pharmacy and Health Sciences (seven years), see page 244;

• Bachelor of Science in biology/Doctor of Chiropractic with Life Chiropractic College West, Logan University, New York Chiropractic College, Palmer College of Chiropractic or University of Western States, (six years, four months), see page 249;

• Bachelor of Science in biochemistry or biology or chemistry/Doctor of Dental Medicine with Lake Erie College of Osteopathic Medicine School of Dental Medicine (eight years), see page 251;

• Bachelor of Science in biology/Doctor of Dental Medicine with Rutgers School of Dental Medicine, (seven years), see page 252;

• Bachelor of Science in biology/Medical Doctor with Ross University School of Medicine, (eight years), see page 253;

• Bachelor of Science in biology/Medical Doctor with Universidad Autónoma de Guadalajara School of Medicine (seven years), see page 255.

• Bachelor of Science in biology/Doctor of Osteopathic Medicine with Lake Erie College of Osteopathic Medicine (seven years), see page 255;

• Bachelor of Science in biochemistry or biology or chemistry/Doctor of Osteopathic Medicine with Lake Erie College of Osteopathic Medicine (eight years), see page 255;

• Bachelor of Science in biology/Doctor of Pharmacy with FDU School of Pharmacy and Health Sciences (seven years), see page 257;

• Bachelor of Science in biology/Doctor of Physical Therapy with Rutgers School of Health Professions, (six years), see page 262;

• Bachelor of Science in biology/Doctor of Podiatric Medicine with New York College of Podiatric Medicine (seven years), see page 263;

• Bachelor of Science in biology/Doctor of Veterinary Medicine with Ross University School of Veterinary Medicine, (seven years), see page 264;

• Bachelor of Science in chemistry/Doctor of Pharmacy with FDU School of Pharmacy and Health Sciences (seven years), see page 266.

For more information on the array of accelerated programs available at FDU, please contact your college dean or school director.

Students matriculated into the accelerated five-year programs leading to the B.A./M.P.A., the B.A./M.A. and the B.S./M.S. degrees (except in accounting). The students receive their bachelor's degree upon completion of undergraduate requirements and are moved to a graduate program. Students in these curricula who require matriculation as graduate students may request conferral of the baccalaureate degrees upon completion of 120–123 credits (121 credits for Silberman College of Business) and the B.A. or B.S. requirements. The degree will then be awarded in accordance with normal University procedures. Students electing this option are advised that they may become ineligible for certain benefits upon achieving graduate-student status.

Students matriculated into the five-year programs leading to the M.B.A. (4+1) or M.S. in supply chain management (4+1) or the M.A.T. normally complete their undergraduate programs and receive their baccalaureate degrees before entering the graduate portion of the program.

B.A./M.P.A.
Five-year Program

Undergraduates who take a major either in history or in political science may, during their junior year, apply to the Master of Public Administration program offered by the School of Public and Global Affairs.

Students who apply and gain admission to the M.P.A. program take three M.P.A. courses (PADM6602 Budgeting and Finance, PADM6603 Public Policy Administration and PADM6680 Information Technology Management) as free electives.

Besides counting toward the B.A., the credits earned in these three graduate courses will count toward the 39 credits that the M.P.A. requires. For the B.A., all University College general education requirements (pages 128–129) and all requirements pertaining to the undergraduate major (history, page 173; political science, pages 198–199) must be satisfied. For the Metropolitan Campus, go to page 218 for the B.A. in history/M.P.A. combined degree and page 220 for the B.A. in political science/M.P.A. combined degree.

Combined Degree Programs

B.A. or B.S./M.A.T. QUEST Teacher Preparation

B.A. or B.S./M.A.T. QUEST Teacher Preparation

Five-year Program

The QUEST (*QU*ality in *E*ducation, *S*chools and *T*eaching) program is offered by the Peter Sammartino School of Education at the Florham Campus, Madison, New Jersey, and the Metropolitan Campus, Teaneck, New Jersey.

The program is open to students who wish to be certified to teach at the early childhood (P–3), elementary or secondary-school level in the area of their liberal arts or science major or in English as a Second Language (ESL). All tracks result in the B.A. or B.S. degree in a liberal arts/science major with graduate-level advanced course work toward a Master of Arts in Teaching (M.A.T.) degree. See below and pages 63 and 131 for additional information.

Students may select a QUEST program in general education (regular classroom teacher) at the P–3, elementary or secondary level or in English as a Second Language (ESL). QUEST also offers the opportunity to select a dual certification program in early childhood (P–3), elementary (K–6) or secondary (7–12) and Teacher of Students with Disabilities (TSD). Students desiring the dual certification program need to join QUEST in their freshman year.

QUEST also offers the opportunity to select a dual certification program in elementary education (K–6) or secondary education (7–12) with a second certification in English as a Second Language. Students desiring the dual certification program in elementary or secondary education and ESL need to join QUEST in their freshman year. These students will need to complete three courses after their fifth year in the program to finish the ESL certification.

QUEST Program

Students typically enter the program in their freshman year. FDU students and admitted transfer students may enroll in QUEST in their sophomore or junior years, subject to an interview with the QUEST adviser, a review of transcripts and meeting QUEST program admissions and matriculation requirements.

Admission and matriculation in the QUEST program are as follows:

- 60 earned credits;
- CGPR of 3.00 or greater; and
- Pass the new Praxis I – CORE Battery, which consists of three tests in basic skills as follows:

1. Core Academic Skills for Educators: Reading
2. Core Academic Skills for Educators: Writing
3. Core Academic Skills for Educators: Mathematics

Students are required to take and pass the CORE Battery by the end of their sophomore year to continue in the QUEST program. Juniors seeking admission to QUEST must take and pass the CORE Battery during their first semester in the program. All three exams must be passed for matriculation. Students who do not pass all three exams may be restricted from taking education (EDUC) courses. Students may be exempted from the CORE Battery if they meet one of the following alternatives:

- SAT (if taken between April 1, 1995, to February 28, 2016): Reading 560; Mathematics 540
- SAT (if taken on or after March 1, 2016): Reading 610; Mathematics 570
- ACT (if taken on or after August 28, 1989): English 23; Mathematics 23
- If a candidate completed and passed the Pre-professional Skills Test (PPST/Praxis I) prior to June 2014, the School of Education will accept passing scores on those exams to satisfy the basic skills requirement (passing scores on the PPST are as follows: Reading 175, Mathematics 174, Writing 173).

In addition to the academic study listed below, beginning in the first year, the program offers extensive field experiences in select public schools.

Faculty advisers work closely with students, individually and/or in groups, to provide guidance as students complete their programs of study.

Program Outline

1. Students must satisfy all general education requirements and specific departmental requirements for their liberal arts/science major in order to be eligible for a B.A. or B.S. degree in their area of specialization. Students in the QUEST program must major in a liberal arts/science discipline and will take from 30 to 31 credits in education as free electives as undergraduates. These credits satisfy the requirement for a "minor." All QUEST students majoring in psychology, sociology or humanities are required to have a minor (15–18 credits) in a content area and/or a middle-school content endorsement.

2. Students must continue to meet grade point requirements (3.00) throughout their time in the QUEST program.

3. After 60 earned credit hours, students may be formally matriculated into the QUEST program. To matriculate, a student must have a 3.00 cumulative grade point ratio and a passing score on the CORE Battery exams in reading, writing and mathematics as described on pages 130–131. All three exams must be passed (for all majors and at all grade-certification levels). Students should take the CORE Battery in their freshman or sophomore year. Students who have 60 credits and have not passed all three sections of the CORE Battery will be restricted in the number of education courses they may take until they pass all three exams.

4. Students will be advised when to take their Content Knowledge Praxis II exams. They will also be advised as to the current required exam(s) for the certification sought. The Praxis II exam is needed to obtain New Jersey State certification.

5. At the end of four years, students who have met all requirements will be eligible for a B.A. or B.S. degree and will have up to 15 graduate credits towards their Master of Arts in Teaching degree (which requires a total of 36 graduate credits — 40 credits for the dual certification program). Students will complete their Apprenticeship (student) Teaching in their fifth year. Upon completion of the Apprenticeship Teaching, students will have met eligibility requirements for teacher certification and will have at least 23 graduate credits towards the M.A.T. Students may decide to complete the remaining graduate courses leading to an M.A.T. in the fifth year or thereafter or to pursue only graduate-level courses to complete their teaching certification without the master's degree. (A master's degree is not required for certification in New Jersey.) A third option would be not to continue in the fifth year in the School of Education.

6. New Jersey teacher certification requires 3 credits in biology, physiology or health. The courses also may be taken to satisfy college core requirements (foundations and disciplinary perspectives) or the liberal arts/science required courses or electives.

7. In order to complete the Master of Arts in Teaching program in five years, students may need to take courses in summer and winter sessions in years three through five, depending upon their particular liberal arts/science program requirements.

8. In addition to required courses at the graduate level for the M.A.T. program, students may choose electives from one area of specialization, i.e., English as a Second Language (ESL), special education (up to 6 credits if not in the dual certification program), instructional technology; or they may choose a variety of electives from those available. It is recommended that students seeking two certifications focus their graduate electives in a specific area of certification for their second certificate.

QUEST Program Sequence

(Note: All students follow the course sequence in years one and two and specialize in early childhood (P–3), elementary, ESL or secondary education in years three, four and five.) Registration in all courses and any substitutions require the adviser's approval. Sequence may vary depending on adviser's recommendation.

Year 1 Credits

EDUC1108
Seminar in Professional Practice I: The Teacher's Role in School and Community....3
EDUC2401
Field Experience I....1
Total....4

Year 2

EDUC2209
Seminar in Professional Practice II: Teachers as Educational Leaders....3
EDUC2402
Field Experience II....1
EDUC3309
Seminar in Professional Practice III: The Functions of Teaching....3
Total....7

Notes: (1) Graduate-level courses, marked with asterisks (*), are taken in years three and four in elementary or secondary specializations for dual undergraduate/graduate credit (maximum 15 credits).
(2) Prerequisites for courses in years three and four: EDUC1108 Seminar in Professional Practice I: The Teacher's Role in School and Community, EDUC2209 Seminar in Professional Practice II: Teachers as Educational Leaders, EDUC3309 Seminar in Professional Practice III: The Functions of Teaching, EDUC2401 Field Experience I and EDUC2402 Field Experience II.
(3) Refer to *Graduate Studies Bulletin* for graduate course descriptions.
(4) Basic course sequence in years two, three and four may vary slightly depending upon individual students.

Early Childhood (P–3) Specialization

Year 3 Credits

EDUC3403
Field Experience III.... 2
EDUC6818
Language Development and Literacy I*....3
EDUC6819
Language Development and Literacy II*....3
EDUC6820
Problem-based Strategies for Elementary Mathematics*....3
Total....11

Year 4

EDUC3404
Field Experience IV: Applied Field Research....2
EDUC6852
Curriculum Development and Assessment for the Pre-school to Third-grade Classroom*.... 3
EDUC6853
Family and Community in Education*... 3
Total....8

Year 5

EDUC6575
Apprenticeship Teaching*....6
EDUC6583
Advanced Clinical Practice*....2
EDUC6584
Computers as a Teacher's Aid: Curriculum and Instruction*....3
EDUC6740
Introduction to Students with Disabilities and Autistic Spectrum Disorders*.... 3
EDUC6825
Apprenticeship Teaching Seminar*....2
EDUC7812
Final Project*....2
EDUC Elective*.... 3
Total....21

Elementary Specialization

Year 3 Credits

EDUC3403
Field Experience III.... 2
EDUC6818
Language Development and Literacy I*....3
EDUC6819
Language Development and Literacy II*....3
EDUC6820
Problem-based Strategies for Elementary Mathematics*....3
Total....11

Year 4

EDUC3404
Field Experience IV: Applied Field Research....2
EDUC6893
Evaluation and Measurement in Education*....3
EDUC7763
Human Relations and Conflict Resolution for Educators*....3
Total....8

Year 5

EDUC6575
Apprenticeship Teaching*....6
EDUC6583
Advanced Clinical Practice*....2
EDUC6584
Computers as a Teacher's Aid: Curriculum and Instruction*....3
EDUC6740
Introduction to Students with Disabilities and Autistic Spectrum Disorders*.... 3
EDUC6825
Apprenticeship Teaching Seminar*....2
EDUC7812
Final Project*....2
EDUC Elective*.... 3
Total....21

ESL Specialization

Year 3

EDUC3403
Field Experience III.... 2
EDUC6565
Second Language Acquisition: Methods and Curriculum*....3
EDUC6654
Literacy Development for Second-language Learners*.... 3
Total....8

Year 4

EDUC3404
Field Experience IV: Applied Field Research....2
EDUC6574
Applied Linguistics for Language Teachers*....3
EDUC6631
Assessment in the Second-language Classroom*.... 3

**Graduate education classes.*

**Graduate education classes.*

Combined Degree Programs

B.A. or B.S./M.A.T. Dual Certification in Elementary, Secondary or Early Childhood Education and Special Education

Credits

EDUC7763
Human Relations and Conflict Resolution for Educators*.....3
Total.....11

Year 5

EDUC6575
Apprenticeship Teaching*.....6
EDUC6583
Advanced Clinical Practice*.....2
EDUC6584
Computers as a Teacher's Aid: Curriculum and Instruction*.....3
EDUC6661
The Multicultural Classroom*.....3
EDUC6740
Introduction to Students with Disabilities and Autistic Spectrum Disorders*.....3
EDUC6825
Apprenticeship Teaching Seminar*.....2
EDUC7812
Final Project*.....2
Total.....21

Secondary Specialization

Year 3

EDUC3403
Field Experience III.....2
EDUC6562, EDUC6563, EDUC6566, EDUC6568, EDUC6569, EDUC6570
Appropriate Methods and Curriculum Courses in Discipline*...3
EDUC6651
Effective Reading Instruction*.....3
Total.....8

Year 4

Credits

EDUC3404
Field Experience IV: Applied Field Research.....2
EDUC6584
Computers as a Teacher's Aid: Curriculum and Instruction*.....3
EDUC6893
Evaluation and Measurement in Education*.....3
EDUC7763
Human Relations and Conflict Resolution for Educators*.....3
Total.....11

**Graduate education classes.*

Year 5 Credits

EDUC6575
Apprenticeship Teaching*.....6
EDUC6583
Advanced Clinical Practice*.....2
EDUC6740
Introduction to Students with Disabilities and Autistic Spectrum Disorders*.....3
EDUC6825
Apprenticeship Teaching Seminar*.....2
EDUC7812
Final Project*.....2
EDUC Electives*.....6
Total.....21

Notes: (1) Students who earn their B.A./B.S. degrees at the end of year four are eligible for state teacher certification upon completion of Advanced Clinical Practice, Apprenticeship Teaching and Apprenticeship Teaching Seminar, if all appropriate education prerequisites have been completed (refer to section on certification, pages 63 and 131).

(2) Students are eligible for: the B.A./B.S. degree upon completion of the required 120 credits and the M.A.T. degree upon completion of 36 approved graduate credits.

(3) All candidates starting clinical practice (student teaching) in academic year 2018–2019 or thereafter must complete at least 50 hours of clinical experience (field experience) in a preschool, elementary, middle and/or secondary school setting prior to clinical practice. Clinical practice will occur over a two-semester period within a single school, with at least 175 hours prior to the final, full-time semester of student teaching.

**Graduate education classes.*

B.A. or B.S./M.A.T. Dual Certification in Elementary, Secondary or Early Childhood Education and Special Education

Five-year Program

The dual certification in early childhood (P–3), elementary (K–6) or secondary (7–12) and special education is offered by the Peter Sammartino School of Education. The program is offered to students who wish to be certified to teach in early childhood, elementary or secondary and special education. Students will earn a B.A. or B.S. degree in a liberal arts/science major with graduate-level advanced course work toward a Master of Arts in Teaching (M.A.T) degree. See below and pages 208–210 for additional information.

Dual Certification Program

This program is open to students who enter as freshmen beginning September 2013 and thereafter. Because the dual certification courses begin in the freshman year, students may not be able to join this program as upperclassmen. Such cases will be evaluated on an individual basis with the program director. In addition to the academic study listed below, beginning in the first year, the program offers extensive field experiences in select public schools. Faculty advisers work closely with students, individually and/or in groups, to provide guidance as students complete their programs of study. Students admitted to this select program will function as a cohort for their education courses.

The curriculum is designed to offer the option of discontinuing study in education at any time during the first four years without losing any time or credit toward the liberal arts or science baccalaureate degree.

Program Outline

Students must satisfy all college core requirements and specific departmental requirements for their liberal arts/science major in order to be eligible for a B.A. or B.S. degree in their area of specialization.

Students in the QUEST program must major in a liberal arts/science discipline. Students majoring in psychology, humanities or sociology are required to have a minor in a content area (English, history, mathematics or science).

Combined Degree Programs

B.A. or B.S./M.A.T. Dual Certification in Elementary, Secondary or Early Childhood Education and Special Education

Admissions and matriculation requirements for the QUEST Dual Certification program are the same as for all QUEST programs (see Admissions and Matriculation requirements, pages 130–131). Students in-terested in the Dual Certification program **must** enter as freshmen or first-semester sophomores.

At the end of four years, students who have met all requirements will be eligible for a B.A. or B.S. degree and will have up to 15 credits toward their Master of Arts in Teaching degree (which requires a total of 40 graduate credits). Typically, students will complete their Apprenticeship (student) Teaching in their fifth year. Upon completion of the Apprenticeship Teaching, students will have met eligibility requirements for teacher certification (general education – first certificate) and will have at least 26 graduate credits toward the M.A.T. Students may decide to complete the remaining graduate courses leading to an M.A.T. in the fifth year or thereafter or to pursue only graduate-level courses to complete their teaching certification without a master's degree. Students must complete the entire program to receive their Teacher of Students with Disabilities (TSD) certification. The state of New Jersey will not issue a TSD certificate as a first certificate. (A master's degree is not required for certification in New Jersey.). A third option would be not to continue in FDU's School of Education.

New Jersey teacher certification requires that 3 credits be taken in biology, physiology or health. These courses also may be taken to satisfy college core requirements or the liberal arts/science required courses or electives.

Eligibility for graduate courses in education in the third and fourth years will require that a student be fully matriculated in the QUEST program. Students must maintain a cumulative grade point ratio (CGPR) of 3.00 and must pass the required basic skills assessment (Praxis CORE Battery) as described on pages 130–131. Students who do not pass all three CORE Battery exams will be restricted in their education classes until these exams are passed.

In order to complete the Dual Certification program in five years, students may need to take courses in summer or winter sessions in years three through five, depending upon their particular liberal arts/science program requirements.

Dual Elementary, Early Childhood, Secondary and Special Education Program Sequence

Year 1 Credits

EDUC1108
Seminar in Professional Practice I: The Teacher's Role in School and Community....3
EDUC2202
Development of Children with and without Disabilities.... 3
EDUC2401
Field Experience I....1
Total....7

Year 2

EDUC2207
Introduction to Special Education and Students with Disabilities including Autism Spectrum Disorder....3
EDUC2208
Classroom Management and Positive Behavioral Supports....3
EDUC2209
Seminar in Professional Practice II: Teachers as Educational Leaders....3
EDUC2402
Field Experience II (special education setting – resource room or self contained)....1
EDUC3309
Seminar in Professional Practice III: The Functions of Teaching....3
Total....13

Notes: (1) Graduate-level courses, marked with two asterisks (**), are taken in years three and four for dual undergraduate/graduate credit (maximum 15 credits).

(2) Prerequisites for courses in years three and four are EDUC1108 Seminar in Professional Practice I: The Teacher's Role in School and Community, EDUC2401 Field Experience I, EDUC2402 Field Experience II, EDUC2209 Seminar in Professional Practice II: Teachers as Educational Leaders, EDUC3309 Seminar in Professional Practice Teaching III: The Functions of Teaching and prerequisite special-education courses (EDUC2204 Survey of Students with Special Needs, EDUC2205 Classroom Management and EDUC2206 Foundation of Special Education for dual certification program).

(3) Refer to *Graduate Studies Bulletin* for graduate course descriptions.

Elementary Specialization (Elementary + TSD)

Year 3 Credits

EDUC3403
Field Experience III....2
EDUC6818
Language Development and Literacy I**....3
EDUC6819
Language Development and Literacy II**....3
EDUC7763
Human Relations and Conflict Resolution for Educators**....3
Total....11

Year 4

EDUC3404
Field Experience IV: Applied Field Research....3
EDUC6792
Assistive Technology for the Inclusive Classroom**....3
EDUC6797
Multisensory Mathematics Instruction for Students with Disabilities**....3
EDUC6820
Problem-based Strategies for Elementary Mathematics**....3
EDUC6893
Evaluation and Measurement in Education**....3
Total....15

Year 5

EDUC6575
Apprenticeship Teaching**....6
EDUC6583
Advanced Clinical Practice**.... 2
EDUC6747
Multisensory Reading Instruction for Students with Reading Disabilities**....3
EDUC6750
Teaching in an Inclusive Classroom**....3
EDUC6792
Assistive Technology for the Inclusive Classroom**....3
EDUC6825
Apprenticeship Teaching Seminar**....2
EDUC7812
Final Project**....2
Total....21

Notes: (1) Graduate-level courses, marked with two asterisks (**), are taken in years three and four for dual undergraduate/graduate credit (maximum 15 credits).

Combined Degree Programs

B.A. or B.S./M.A.T. Dual Certification in Elementary, Secondary or Early Childhood Education and Special Education

(2) Prerequisites for courses in years three and four are EDUC1108 Seminar in Professional Practice I: The Teacher's Role in School and Community, EDUC2401 Field Experience I, EDUC2402 Field Experience II, EDUC2209 Seminar in Professional Practice II: Teachers as Educational Leaders, EDUC3309 Seminar in Professional Practice Teaching III: The Functions of Teaching and prerequisite special-education courses (EDUC2204 Survey of Students with Special Needs, EDUC2205 Classroom Management and EDUC2206 Foundation of Special Education for dual certification program).

(3) Refer to *Graduate Studies Bulletin* for graduate course descriptions.

Secondary Specialization (Secondary + TSD)

Year 3 Credits

EDUC3403
Field Experience III.....2
EDUC6651
Effective Reading Instruction..... 3
Appropriate Secondary Methodology Course (EDUC6500 level)..... 3
Total.....8

Year 4

EDUC3404
Field Experience IV: Applied Field Research.....2
EDUC6792
Assistive Technology for the Inclusive Classroom**.....3
EDUC6797
Multisensory Mathematics Instruction for Students with Disabilities**.....3
EDUC6893
Evaluation and Measurement in Education**..... 3
EDUC7763
Human Relations and Conflict Resolution for Educators**.....3
Total.....14

Year 5 Credits

EDUC6575
Apprenticeship Teaching**.....6
EDUC6583
Advanced Clinical Practice**..... 2
EDUC6747
Multisensory Reading Instruction for Students with Reading Disabilities**.....3
EDUC6750
Teaching in an Inclusive Classroom**....3
EDUC6825
Apprenticeship Teaching Seminar**.....2
EDUC7812
Final Project**.....2
EDUC
Graduate Elective..... 3
Total.....21

P–3 Early Childhood Specialization (Early Childhood + TSD)

Year 3

EDUC3403
Field Experience III.....2
EDUC6818
Language Development and Literacy I**.....3
EDUC6819
Language Development and Literacy II**.....3
EDUC6820
Problem-based Strategies for Elementary Mathematics**..... 3
Total.....11

Year 4

EDUC3404
Field Experience IV: Applied Field Research.....2
EDUC6792
Assistive Technology for the Inclusive Classroom**.....3
EDUC6797
Multisensory Mathematics Instruction for Students with Disabilities**.....3
EDUC6852
Curriculum Development and Assessment for the Pre-school to Third-grade Classroom**..... 3
EDUC6853
Family and Community in Education**..... 3
Total.....14

Year 5 Credits

EDUC6575
Apprenticeship Teaching**.....6
EDUC6583
Advanced Clinical Practice**..... 2
EDUC6747
Multisensory Reading Instruction for Students with Reading Disabilities**.....3
EDUC6750
Teaching in an Inclusive Classroom**....3
EDUC6793
Education of Students with Moderate to Severe Disabilities**..... 3
EDUC6825
Apprenticeship Teaching Seminar**.....2
EDUC7812
Final Project**.....2
Total.....21

Notes: (1) Students who earn their B.A. or B.S. degrees at the end of year four are eligible for state teacher certification upon completion of EDUC6575 Apprenticeship Teaching and EDUC6825 Apprenticeship Teaching Seminar if all appropriate education prerequisites have been completed (refer to section on certification, pages 63–64 and 131).

(2) Students are eligible for special education certification upon completion of their B.A. or B.S. degrees and their elementary**,** early childhood or secondary education certification and completion of the required special education courses. In New Jersey, special education certification will not be given without an accompanying general education (elementary, early childhood or secondary) certification.

(3) Students are eligible for B.A. or B.S. degree upon completion of the required 120 credits and the M.A.T. degree upon completion of 40 approved graduate credits. Please note that some undergraduate majors such as mathematics, biology and chemistry may require more than 120 credits for the B.A. or B.S.

(4) All candidates starting clinical practice (student teaching) in academic year 2018–2019 or thereafter must complete at least 50 hours of clinical experience (field experience) in a preschool, elementary, middle and/or secondary school setting prior to clinical practice. Clinical practice will occur over a two-semester period within a single school, with at least 175 hours prior to the final, full-time semester of student teaching.

B.A. or B.S./M.A.T. Dual Certification in Elementary or Secondary Education and English as a Second Language

Five-year Program

The dual certification in elementary or secondary and English as a Second Language (ESL) is offered by the Peter Sammartino School of Education. The program is offered to students who wish to be certified to teach in elementary or secondary schools and ESL settings. Students will earn a B.A. or B.S. degree in a liberal arts/science major with graduate-level advanced course work toward a Master of Arts in Teaching (M.A.T) degree. See below and pages 208–210 for additional information.

Program Outline

Students must satisfy all college core requirements and specific departmental requirements for their liberal arts/science major in order to be eligible for a B.A. or B.S. degree in their area of specialization.

Students in the QUEST program must major in a liberal arts/science discipline. Students majoring in psychology, humanities or sociology are required to have a minor in a content area (English, history, mathematics or science).

Admissions and matriculation requirements for the QUEST Dual Certification program are the same as for all QUEST programs (see Admissions and Matriculation requirements, pages 130–131). Students interested in the Dual Certification program **must** enter as freshmen or first-semester sophomores.

At the end of four years, students who have met all requirements will be eligible for a B.A. or B.S. degree and will have up to 15 credits toward their Master of Arts in Teaching degree (which requires a total of 36 graduate credits). Typically, students will complete their Apprenticeship (student) Teaching in their fifth year. Upon completion of the Apprenticeship Teaching, students will have met eligibility requirements for teacher certification (general education – first certificate) and will have earned at least 36 graduate credits toward the M.A.T., earning the M.A.T. degree. Students must complete the entire program to receive their English as a Second Language (ESL) Certification. This program requires three additional courses to be completed in addition to the M.A.T., outside the five-year sequence, either in summer, winter or the semesters following the completion of the fifth year. The state of New Jersey will not issue an ESL license without completion of the course work.

New Jersey teacher certification requires that 3 credits be taken in biology, physiology or health. These courses also may be taken to satisfy college core requirements or the liberal arts/science required courses or electives.

Eligibility for graduate courses in education in the third and fourth years will require that a student be fully matriculated in the QUEST program. Students must maintain a cumulative grade point ratio (CGPR) of 3.00 and must pass the required basic skills assessment (Praxis CORE Battery) as described on pages 130–131. Students who do not pass all three CORE Battery exams will be restricted in their education classes until these exams are passed.

Elementary or Secondary Education and ESL Program Sequence

Year 1 Credits

EDUC1108
Seminar in Professional Practice I: The Teacher's Role in School and Community....3
EDUC2401
Field Experience I....1
Total....4

Year 2

EDUC2209
Seminar in Professional Practice II: Teachers as Educational Leaders....3
EDUC2402
Field Experience II....1
EDUC3309
Seminar in Professional Practice III: The Functions of Teaching....3
Total....7

Elementary Specialization

Year 3

EDUC3403
Field Experience III....2
EDUC6818
Language Development and Literacy I....3
EDUC6820
Problem-based Strategies for Elementary Mathematics....3
Total....8

Year 4 Credits

EDUC3404
Field Experience IV: Applied Field Research....2
EDUC6654
Literacy Development for Second-language Learners....3
EDUC6893
Evaluation and Measurement in Education....3
EDUC7763
Human Relations and Conflict Resolution for Educators....3
Total....11

Year 5

EDUC6575
Apprenticeship Teaching....6
EDUC6583
Advanced Clinical Practice....2
EDUC6584
Computers as a Teacher's Aid: Curriculum and Instruction....3
EDUC6661
The Multicultural Classroom....3
EDUC6740
Introduction to Students with Disabilities and Autistic Spectrum Disorders....3
EDUC6825
Apprenticeship Teaching Seminar....2
EDUC7812
Final Project....2
Total....21

Additional Course Work

EDUC6565
Second Language Acquisition: Methods and Curriculum....3
EDUC6574
Applied Linguistics for Language Teachers....3
EDUC6631
Assessment in the Second-language Classroom....3
Total....9

Secondary Specialization

Year 3

EDUC3403
Field Experience III....2
EDUC6651
Effective Reading Instruction
or
EDUC6654
Literacy Development for Second-language Learners....3
Methods in Respective Field Course (EDUC6500 level)....3
Total....8

Combined Degree Programs

B.A. in Communication Studies/M.A. in Communication

Year 4 Credits

EDUC3404
Field Experience IV: Applied Field Research (ESL setting)..... 2
EDUC6565
Second Language Acquisition: Methods and Curriculum..... 3
EDUC6893
Evaluation and Measurement in Education..... 3
EDUC7763
Human Relations and Conflict Resolution for Educators..... 3
Total..... 11

Year 5

EDUC6575
Apprenticeship Teaching..... 6
EDUC6583
Advanced Clinical Practice..... 2
EDUC6584
Computers as a Teacher's Aid: Curriculum and Instruction..... 3
EDUC6661
The Multicultural Classroom..... 3
EDUC6740
Introduction to Students with Disabilities and Autistic Spectrum Disorders..... 3
EDUC6825
Apprenticeship Teaching Seminar..... 2
EDUC7812
Final Project..... 2
Total..... 21

Additional Course Work

EDUC6574
Applied Linguistics for Language Teachers..... 3
EDUC6631
Assessment in the Second-language Classroom..... 3
EDUC Graduate Elective..... 3
Total..... 9

B.A. in Communication Studies/M.A. in Communication Accelerated Program

The accelerated Bachelor of Arts in communication studies/Master of Arts in communication program, offered by Maxwell Becton College of Arts and Sciences at the Florham Campus, allows students to complete both B.A. and M.A. with a combined degree load that is 9 credits less than that of the separate degrees.

By the start of their junior year, students who are interested in pursuing the five-year B.A. in communication studies/M.A. in communication program must: 1) have completed 64 credits of undergraduate course work including COMM2001 Perspectives on Communication Studies, COMM3018 Mass Communication and COMM3019 Global Communication and 2) have a cumulative grade point ratio of 3.00 or higher.

Transfer students must have completed a minimum of 60 undergraduate credits in an accredited two-year or four-year college or university, with a minimum of 9 credits in communication studies or equivalent courses. An applicant's academic and work experiences should reflect a strong potential for successfully completing the academic requirements of the five-year B.A./M.A. program.

By the end of the junior year, students applying for admission to the five-year B.A. in communication studies/M.A. in communication are expected to submit an application, personal statement, unofficial transcript and two letters of recommendation to the M.A. program director.

Applicants for the accelerated program are interviewed by the director of the graduate program.

Upon completion of their senior year, students will have earned a B.A. in communication studies, in the event they are not accepted or choose not to pursue the accelerated program.

Requirements for the B.A. in Communication Studies/M.A. in Communication

Students will complete a total of 141 credits: 120 credits for the Bachelor of Arts and 21 additional credits for the Master of Arts; 9 graduate credits will have been completed as part of the 120 credits toward the B.A.

Required Course Sequence

Senior Year – Undergraduate (9 credits)

The senior undergraduate year of all B.A./M.A. students is a qualifying year. Students must earn a B grade or better in each of the three required classes in order to qualify for the graduate year. Failure to earn B grades or better in each required class means that the student will not be allowed to continue into the graduate year. Instead, the student will graduate at the end of the senior year with a B.A. in communication studies.

Fall of Undergraduate Senior Year

Credits

MCOM6001
Principles and Practices of Communication..... 3

Spring of Undergraduate Senior Year

MCOM6005
Group Communication and Leadership..... 3
MCOM6006
Research Methods..... 3

Graduate Year (21 credits)

Summer (3 credits)

MCOM7002
International Communication and Culture*
or
MCOM Context Course..... 3

Fall (9 credits)

MCOM6002
Professional Writing and Editing..... 3
MCOM6003
Presentation Methods..... 3
MCOM Context Course..... 3

Spring (9 credits)

MCOM6004
Executive Lectures..... 3
MCOM6099
The Capstone Experience: Principles into Practice..... 3
MCOM Context Course..... 3

**Offered at FDU's Wroxton College, United Kingdom campus.*

Combined Degree Programs

B.A. in Creative Writing/M.F.A. in Creative Writing
B.A. in Criminal Justice/M.A. in Criminal Justice
B.A. in Criminology/M.A. in Criminal Justice

B.A. in Creative Writing/ M.F.A. in Creative Writing

The B.A./M.F.A. in creative writing is a uniquely designed accelerated degree that provides outstanding undergraduate students in FDU's creative writing program the opportunity to begin work on their graduate degree as they enter their senior year. After graduating from the B.A. program, students continue in the low-residency M.F.A. program, and may complete their M.F.A. degree within 18 months.

The accelerated B.A./M.F.A. program offers students both a shorter time frame to earn their M.F.A. degree and significant cost savings by applying 12 credits of graduate course work toward undergraduate degree requirements. Scholarships and financial aid are available to eligible students.

Undergraduate creative writing majors at FDU must apply to the accelerated B.A./M.F.A. program during their junior year by submitting a letter of interest in the program and a writing sample to writingmfa@fdu.edu. Applications will be evaluated on the basis of the writing sample and previous undergraduate work in creative writing.

Once accepted, creative writing students complete 12 credits of graduate course work during the senior year (6 credits in the first semester and 6 credits in the second semester), in the genre of their concentration: fiction, creative nonfiction, poetry, literary translation and writing for young adults and children.

For additional information, please contact René Steinke, director, at 973-443-8632 or writingmfa@fdu.edu.

B.A. in Criminal Justice/M.A. in Criminal Justice

The School of Criminal Justice, Political Science and International Studies offers a combined degree program that affords students the opportunity to combine their undergraduate and graduate studies. With the approval of their academic adviser and the program director, students can take up to three designated graduate courses that fulfill the requirements for both undergraduate and graduate degrees, thus accelerating completion of their Master of Arts in criminal justice.

Students opting for the combined degree program must meet the minimum admission requirements for students applying to the graduate program in criminal justice as set forth in the current issue of the *Graduate Studies Bulletin*; the only exception of having obtained their baccalaureate degree.

It is recommended that students interested in the combined degree program declare their candidacy upon successful completion of 64 credits and/or upon entering their junior year; however, no later than having completed 90 undergraduate credits. This affords students the opportunity to collaborate with their adviser in the timely and appropriate selection of undergraduate and graduate courses.

To qualify for the combined program in criminal justice, students must possess and maintain a minimum 3.00 overall cumulative grade point ratio (CGPR), and a 3.25 grade point ratio (GPR) within the criminal justice major. Students in the combined degree program must maintain a minimum 3.00 GPR in the graduate courses for which they have been approved.

B.A. in Criminology/M.A. in Criminal Justice

The B.A. in criminology/M.A. in criminal justice combined degree program offers students the opportunity to combine their undergraduate studies in criminology with graduate studies in criminal justice. With the opportunity to take up to three designated graduate courses that fulfill both undergraduate and graduate requirements, students of this program are able to complete a Master of Arts in criminal justice in five years.

To qualify for the combined program, students must possess a 3.00 grade point ratio after earning 60 credits and apply to the combined program prior to earning 90 credits. Students will also need to submit two letters of recommendation to the director of the graduate criminal justice program.

This combined degree offers students the opportunity to partake in an accelerated master's program at a discounted tuition rate. The program combines the best of both criminology and criminal justice to prepare students for supervisory and leadership positions in law enforcement, courts, corrections, social service, private security, teaching and public policy.

Students will be afforded flexible class schedules and networking opportunities with criminal justice and public policy professionals, as well as credits for internships.

Combined Degree Programs

B.A. in Film and Animation/M.A. in Animation

B.A. in Film and Animation/ M.A. in Animation Accelerated Program

The School of the Arts on the Florham Campus offers a combined B.A. in film and animation/M.A. in animation degree that allows students to complete both the bachelor's and master's degrees in animation in five years with a combined load that is 12 credits less than that of separate degrees. Students may apply to this program at any time from their entry into the B.A. in film and animation program up until the beginning of their senior year of their undergraduate studies.

During the first three years, students who are interested in the five-year B.A. in film and animation/M.A. in animation program take undergraduate classes that are required of students in the B.A. in film and animation program (3D animation, video game animation or visual effects concentration). In the junior year of undergraduate studies, students in this program are required to submit a portfolio of their best work for review. At that time, the director of the program will notify the student as to whether or not the reviewing committee approves them to continue on in the combined B.A./M.A. degree program.

In the senior year of undergraduate studies, students in this program take 12 graduate-level ANIM credits as well as complete the remainder of their undergraduate courses. To apply graduate credits completed in the undergraduate senior year to the M.A. program, a grade of B or better is required upon which those credits will be applied to **both** the undergraduate and graduate degrees. If the student receives a grade of B- or less, those credits will only be applied to the undergraduate B.A. degree.

Transfer students must have completed all of the above-mentioned requirements, with no more than 60 credits included from an accredited college or university outside of Fairleigh Dickinson University.

Requirements for the B.A. in Film and Animation/M.A. in Animation

Students will complete a total of 144 credits: 120 credits for the Bachelor of Arts and 24 additional credits for the Master of Arts; 12 graduate credits will have been completed as part of the 120 credits toward the B.A.

Graduate Requirements

Undergraduate Senior Year

	Credits
ANIM5000 or higher-level courses	12

The senior undergraduate year of all B.A./M.A. students is a qualifying year. Students must earn a grade of B or better in each of the four graduate-level courses in order to qualify for the graduate year. Failure to earn B grades or better in each graduate-level class means that the student will not be allowed to continue into the graduate year. Instead, the student will graduate at the end of the senior year with a B.A. in film and animation.

Graduate Year (3D Animation Concentration) (24 credits)

ANIM5300 Storytelling	3
ANIM5400 Character Design	3
ANIM6100 Digital Sculpting	3
ANIM6150 3D Character Texturing	3
ANIM6300 3D Character Animation	3
ANIM7000 Advanced 3D Character Animation	3

Major Electives

ANIM5000 or higher-level courses (credit number depends on which dual-credit courses were taken in the undergraduate senior year)

Graduate Year (Video Game Animation Concentration) (24 credits)

ANIM5400 Character Design	3
ANIM5500 Digital 2D Animation	3
ANIM6100 Digital Sculpting	3
ANIM6400 3D Animation for Games	3
ANIM6600 Game Creation	3
ANIM7500 Advanced Game Creation	3

Major Electives

ANIM5000 or higher-level courses (credit number depends on which dual-credit courses were taken in the undergraduate senior year)

Graduate Year (Visual Effects Concentration) (24 credits)

	Credits
ANIM5300 Storytelling	3
ANIM5500 Digital 2D Animation	3
ANIM5600 Advanced 3D Layers in After Effects®	3
ANIM5700 Dynamic Effects and Particle Systems in After Effects®	3
ANIM5800 Compositing in After Effects®	3
ANIM6350 3D Particle Systems and Effects®	3

Major Electives

ANIM5000 or higher-level courses (credit number depends on which dual-credit courses were taken in the undergraduate senior year)

B.A. in Film and Animation/ M.F.A. in Animation Accelerated Program

The School of the Arts on the Florham Campus offers a combined B.A. in film and animation/M.F.A. in animation degree that allows students to complete both the bachelor's and Master of Fine Arts degrees in animation in six years with a combined load that is 12 credits less than that of separate degrees. Students may apply to this program at any time from their entry into the B.A. in film and animation program up until the beginning of their senior year of their undergraduate studies.

During the first three years, students who are interested in the six-year B.A. in film and animation/M.F.A. in animation program take undergraduate classes that are required of students in the B.A. in film and animation program (3D character animation, video game animation or visual effects concentration). In the junior year of undergraduate studies, students in this program are required to submit a portfolio of their best work for review. At that time, the director of the program will notify the student as to whether or not the reviewing committee approves them to continue on in the combined B.A./M.F.A. degree program.

In the senior year of undergraduate studies, students in this program take 12 graduate-level ANIM credits as well as complete the remainder of their undergraduate courses. To apply graduate credits completed in the undergraduate senior year to the M.F.A. program, a grade of B or better is required upon which those credits will be applied to **both** the undergraduate and graduate degrees. If the student receives a grade of B- or less, those credits will only be applied to the undergraduate B.A. degree.

Transfer students must have completed all of the above-mentioned requirements, with no more than 60 credits included from an accredited college or university outside of Fairleigh Dickinson University.

Requirements for the B.A. in Film and Animation/M.F.A. in Animation

Students will complete a total of 168 credits: 120 credits for the Bachelor of Arts and 48 additional credits for the Master of Fine Arts; 12 graduate credits will have been completed as part of the 120 credits toward the B.A.

Graduate Requirements

Undergraduate Senior Year

Credits

ANIM5000 or higher-level courses..... 12

The senior undergraduate year of all B.A./M.F.A. students is a qualifying year. Students must earn a grade of B or better in each of the four graduate-level courses in order to qualify for the graduate year. Failure to earn B grades or better in each graduate-level class means that the student will not be allowed to continue into the graduate year. Instead, the student will graduate at the end of the senior year with a B.A. in film and animation.

Graduate Two Years (3D Character Animation Concentration) (48 credits)

ANIM5300
Storytelling..... 3
ANIM5400
Character Design..... 3
ANIM6100
Digital Sculpting..... 3
ANIM6150
3D Character Texturing..... 3
ANIM6300
3D Character Animation..... 3
ANIM7000
Advanced 3D Character Animation..... 3
ANIM7250
Lip-Syncing..... 3
ANIM7425
Motion Capture..... 3
ANIM7650
Thesis I..... 3
ANIM7750
Thesis II..... 3
ANIM7850
Thesis III..... 3
ANIM7900
Animation Career Preparation..... 3

Major Electives

ANIM5000 or higher-level courses (credit number depends on which dual-credit courses were taken in the undergraduate senior year)

Graduate Two Years (Video Game Animation Concentration) (24 credits)

ANIM5400
Character Design..... 3
ANIM5500
Digital 2D Animation..... 3
ANIM6100
Digital Sculpting..... 3
ANIM6400
3D Animation for Games..... 3

Credits

ANIM6600
Game Creation..... 3
ANIM7500
Advanced Game Creation..... 3
ANIM7525
Virtual Reality..... 3
ANIM7600
Video Game Team Project..... 3
ANIM7650
Thesis I..... 3
ANIM7750
Thesis II..... 3
ANIM7850
Thesis III..... 3
ANIM7900
Animation Career Preparation..... 3

Major Electives

ANIM5000 or higher-level courses (credit number depends on which dual-credit courses were taken in the undergraduate senior year)

Graduate Two Years (Visual Effects Concentration) (48 credits)

ANIM5300
Storytelling..... 3
ANIM5500
Digital 2D Animation..... 3
ANIM5600
Advanced 3D Layers in After Effects®..3
ANIM5700
Dynamic Effects and Particle Systems in After Effects®..... 3
ANIM5800
Compositing in After Effects®..... 3
ANIM6350
3D Particle Systems and Effects®..... 3
ANIM6700
Animating Fluids..... 3
ANIM6805
Motion Tracking..... 3
ANIM7650
Thesis I..... 3
ANIM7750
Thesis II..... 3
ANIM7850
Thesis III..... 3
ANIM7900
Animation Career Preparation..... 3

Major Electives

ANIM5000 or higher-level courses (credit number depends on which dual-credit courses were taken in the undergraduate senior year)

Combined Degree Programs

B.A. in History/M.P.A.
B.A. in Political Science/M.A. in Criminal Justice

B.A. in History/M.P.A. Five-year Program

The B.A. in history/M.P.A. combined degree is offered on the Metropolitan Campus. A total of 150 credits is normally required to complete the B.A./M.P.A. combined degree program. Thirty-nine of these credits must be earned on the graduate level.

Requirements for the B.A. in History/M.P.A.

Undergraduate Courses (A minimum of 120 credits is required for the B.A. degree.)

General Education Requirements (47 credits)

College Competencies (21 credits)

Written Communication
Six credits in ENWR1001 Composition I: Rhetoric and Inquiry and ENWR1002 Composition II: Research and Argument and six credits of writing-intensive courses within the major.

Oral Communication
A three-credit course related to public speaking and oral presentations, typically a course in speech.

Quantitative Analysis
A three-credit course related to mathematics and statistics, with applications to everyday problems.

Ethical and Moral Analysis
A three-credit course that is substantially concerned with ethical theories and questions. For history majors, this course should be HIST2106 Ethical Issues in History.

Scientific Analysis
A minimum of six credits of laboratory science.

Language and Culture
This requirement can be satisfied by one of four options: traditional language courses with significant cultural elements, language (LANG) courses listed under Language and Culture Studies, language-based study abroad or the six highest ESL/EPS credits for nonnative English speakers.

Social and Behavioral Sciences
Six credits of course work in communication, criminal justice, economics, political science, psychology or sociology.

Art and Humanities
Six credits of course work in art (visual or performing arts), English literature, history, humanities, philosophy or religion.

Liberal Arts Distribution (18 credits)

University Requirements (8 credits)

	Credits
UNIV1001 Transitioning to University Life	1
UNIV1002 Preparing for Professional Life	1
UNIV2001 Cross-cultural Perspectives	3
UNIV2002 Global Issues	3

Major Requirements (36 credits)

At least two 1000-level HIST courses; at least three 3000-level HIST courses; either HIST4400 Senior Research Seminar or HIST4401 Honors History; and as many 2000-level courses as required.

Minor Elective Courses (15 credits)

Free Elective Courses (13 credits)

Additional Graduate Courses Required for the M.P.A. Degree (39 credits)

PADM6600 Public and Nonprofit Management	3
PADM6601 Organization Theory	3
PADM6602 Budgeting and Finance	3
PADM6603 Public Policy Administration	3
PADM6604 Human Resources Management	3
PADM6610 Quantitative Methods for Administrators	3
PADM6680 Information Technology Management	3
PADM6821 M.P.A. Project Report	3
Public Administration Electives	15

B.A. in Political Science/ M.A. in Criminal Justice Five-year Program

The accelerated Bachelor of Arts in political science/Master of Arts in criminal justice offered by the School of Criminal Justice, Political Science and International Studies allows students to complete and combine their studies in earning both bachelor's and master's degrees. The student is able to take 9 graduate credits during their senior year toward their free electives.

Students opting for the combined degree program must meet the minimum admissions requirements for students applying for the graduate program as set forth in the *Graduate Studies Bulletin*, the only exception is with those who have obtained their baccaulaureate degrees.

It is highly recommended that students expressing interest in the program speak with an adviser in order to maintain proper availability on their check sheets. Students may declare their candidacy toward this program after successfully completing 64 credits but no later than 90 undergraduate credits.

It is imperative for students who plan to declare for this program that they maintain a minimum 3.00 overall cumulative grade point ratio (CGPR) and a 3.25 GPR within the political science major. Students must maintain a 3.00 GPR in the approved graduate courses.

B.A. in Political Science/ M.A. in Political Science Five-year Program

A new program, as of the spring 2018 semester, this accelerated combined degree program offers those majoring in political science with the opportunity to also earn their graduate degree in political science.

Students may apply for this program after the successful completion of 64 credits during their junior year. They may begin to take 9 graduate credits during their senior year toward their 120-credit requirement for graduation. An additional 24 graduate credits must be taken to complete the program.

Students who plan to declare for this program are required to maintain a minimum 3.00 overall cumulative grade point ratio (CGPR) and a 3.25 GPR within the political science major. Students must maintain a 3.00 GPR in their approved graduate courses.

General Education Requirements (53 credits)

College Competencies (24 credits)

	Credits
ENWR1001 Composition I: Rhetoric and Inquiry	3
ENWR1002 Composition II: Research and Argument	3
Speech and Professional Communication (3 credits)	
Quantitative Analysis (3 credits)	
Math or Technology Statistics (3 credits)	
Ethical and Moral Analysis	
POLS2606 Ethics and Politics	3
Scientific Analysis (6 credits)	

Liberal Arts Distribution (21 credits)

Language (3 credits)

Social and Behavioral Sciences (6 credits)

POLS1101 Introduction to Political Science	3
POLS2231 Comparative Government and Politics	3

Art and Culture (6 credits)

Humanities (6 credits)

University Requirements (8 credits)

	Credits
UNIV1001 Transitioning to University Life	1
UNIV1002 Preparing for Professional Life	1
UNIV2001 Cross-cultural Perspectives	3
UNIV2002 Global Issues	3

Major Requirements (39 credits)

Required Major Courses (18 credits)

POLS2232 Political Thought and Theory	3
POLS2251 Foreign Policy of the United States	3
POLS2253 American Government	3
CRIM6015 Research Methods in Criminal Justice and Criminology	3
POLS7820 Models of Political Systems	3
POLS7826 Politics of Public Safety	3

Major Electives (21 credits)

Minor (15 credits)

Free Electives (13 credits)

*Total....*120

Master's Curriculum (24 credits)

POLS6800 Master's Research or Comprehensive Exam	3

Political Science Graduate Electives (21 credits)

CRIM6010 U.S. Constitution, Public Policy and Criminal Justice	3
CRIM6020 Statistics and Data Analysis	3
CRIM7020 Ethics, Politics and Justice	3
CRIM7025 Comparative Criminal Justice Systems	3
CRIM7030 Principles of Leadership	3
CRIM7080 Politics and Policies of Criminal Justice	3
CRIM7085 Advanced Internship in Criminal Jutice	3
HIST6714 U.S. and the Developing World	3
HIST7712 Constitution: Transition	3
POLS6682 Diplomatic History of the U.S.	3
POLS6711 Genocide: From an American Perspective	3
POLS6753 American Culture in a Global Perspective	3
POLS6871 U.S.-Latin American Relations	3
POLS7810 Constitution Issues/U.S. Foreign Policy	3
POLS7815 Nationalism and Its Discontents	3
POLS7820 Models of Political Systems	3
POLS7821 Modern Political Theory	3
POLS7822 The Character of Revolutionary Movements	3
POLS7825 Foreign Policy and Diplomacy	3
POLS7830 International Organizations	3
POLS7831 International Law	3
POLS7832 International Problems/Conflict Resolution	3
POLS7833 Modern Warfare/Global Stability	3
POLS7834 Politics of the Global Economy	3
POLS7835 Geography and World Politics	3
POLS7851 Forces and Issues: Middle East	3
POLS7853 The New Europe	3
POLS7854 Changing Eastern Europe	3
POLS7863 Comparative Government: Middle East	3
POLS7867 Political and Economic Challenges: Africa	3
POLS7868 Terrorism and Insurgency	3
POLS7871 The Modern Asian State	3
POLS7874 Latin America: New Challenges	3
POLS7875 Canada, Mexico and U.S.: Perspectives	3

*Total....*144

Combined Degree Programs

B.A. in Political Science/M.P.A.

B.A. in Political Science/M.P.A. Five-year Program

This is a five-year B.A./master's curriculum combining undergraduate studies in political science with graduate studies in public administration. It is offered at the Metropolitan Campus, Teaneck, New Jersey. Students will obtain the B.A. at the end of four years of course work and 120 credits. Students can apply to a five-year program (B.A./M.P.A.) as early as their junior year.

A total of 150 credits is normally required to complete the B.A./M.P.A. combined degree program. Thirty-nine of these credits must be earned on the graduate level.

Undergraduate Courses (A minimum of 120 credits is required for the B.A. degree.)

Requirements for the B.A. in Political Science/M.P.A.

Undergraduate Courses (A minimum of 120 credits is required for the B.A. degree.)

General Education Requirements (47 credits)

College Competencies (21 credits)

Written Communication
Six credits in ENWR1001 Composition I: Rhetoric and Inquiry and ENWR1002 Composition II: Research and Argument and six credits of writing-intensive courses within the major.

Oral Communication
A three-credit course related to public speaking and oral presentations, typically a course in speech.

Quantitative Analysis

A three-credit course related to mathematics and statistics, with applications to everyday problems.

Ethical and Moral Analysis
A three-credit course that is substantially concerned with ethical theories and questions. For political science majors, this course should be POLS2606 Ethics and Politics.

Scientific Analysis
A minimum of six credits of laboratory science.

Language and Culture
This requirement can be satisfied by one of four options: traditional language courses with significant cultural elements, language (LANG) courses listed under Language and Culture Studies, language-based study abroad or the six highest ESL/EPS credits for nonnative English speakers.

Social and Behavioral Sciences
This requirement consists of three credits in political science (POLS1101 Introduction to Political Science) and three credits of course work in communication, criminal justice, economics, political science, psychology or sociology.

Art and Humanities
Six credits of course work in art (visual or performing arts), English literature, humanities, philosophy or religion.

Liberal Arts Distribution (18 credits)

University Requirements (8 credits)

	Credits
UNIV1001 Transitioning to University Life	1
UNIV1002 Preparing for Professional Life	1
UNIV2001 Cross-cultural Perspectives	3
UNIV2002 Global Issues	3

Major Requirements (36 credits)

Required Major Courses (15 credits)

POLS2231 Comparative Government and Politics	3
POLS2232 Political Thought and Theory	3
POLS2251 Foreign Policy of the United States	3
POLS2253 American Government	3
POLS4600 Political Science Seminar	
or	
POLS4875 Honors in Political Science	3

Major Elective Courses (21 credits)

A minimum of 21 credits (seven POLS courses).

Minor Elective Courses (15 credits)

Free Elective Courses (13 credits)

Additional Graduate Courses Required for the M.P.A. Degree (39 credits)

	Credits
PADM6600 Public and Nonprofit Management	3
PADM6601 Organization Theory	3
PADM6602 Budgeting and Finance	3
PADM6603 Public Policy Administration	3
PADM6604 Human Resources Management	3
PADM6610 Quantitative Methods for Administrators	3
PADM6680 Information Technology Management	3
PADM6821 M.P.A. Project Report	3
Public Administration Electives	15

M.P.A. Requirements

For information contact Dr. Paulette Laubsch, academic coordinator for the M.P.A. program, at plaubsch@fdu.edu or 201-692-6523.

Accelerated Programs in Psychology

The University offers separate and distinct accelerated programs for undergraduate psychology majors at its campuses.

At the Metropolitan Campus, Teaneck, New Jersey, the student may earn a master's degree in forensic psychology (see this page), general/theoretical psychology (see page 222) or a master's degree in social work (see page 224). At the Florham Campus, Madison, New Jersey, there is a program leading to a master's degree in industrial/organizational psychology (see page 223).

B.A. in Psychology/M.A. in Forensic Psychology Five-year Program

The School of Psychology at the Metropolitan Campus, Teaneck, New Jersey, offers three programs that provide an opportunity for students to accelerate their training in psychology. These programs, leading to a master's degree in forensic psychology, general/theoretical psychology or in social work, allow students to complete the typical B.A./M.A. or B.A./M.S.W. course sequence in just five years, rather than the usual six years of full-time study.

Entrance and Curriculum Requirements for the B.A./M.A. in Forensic Psychology Program

Students can enter the program as incoming freshmen or as students already enrolled in an undergraduate program at Fairleigh Dickinson University (or as incoming transfer students). Current undergraduate students must first complete a minimum of 12 credits in psychology (including statistics). Students' academic and work experiences must reflect a strong potential for successfully completing the academic requirements of the accelerated B.A./M.A. program. Academic potential for either incoming freshmen or current undergraduate students will be determined by the School of Psychology on the basis of the following: 1) SAT scores (for high school students); 2) academic transcripts; 3) a minimum of two letters of recommendation (at least one from a professor/teacher); 4) a personal statement regarding academic and career goals; and 5) for current undergraduate students, a cumulative grade point ratio (GPR) of 3.50. The decision to accept applicants will be made on the basis of the foregoing data and a personal interview.

Students begin taking graduate classes in their junior year and remain on "probationary" status until their senior year, when they are officially accepted into the program. This evaluation will be performed by a committee of psychology faculty at the end of each student's fourth year. With regard to credits earned in graduate courses, students are required to maintain a minimum overall grade point ratio of 3.00 and must not earn more than one C-level grade throughout their graduate course work. Students receiving two or more grades below a B- in graduate courses will not be permitted to continue in the program. Students in this circumstance who are not permitted to continue in the graduate program will receive the B.A. in psychology upon successful completion of their undergraduate curriculum (a total of 120 credits).

A written comprehensive examination of the candidate's knowledge of general psychology or a master's thesis is required at the end of the graduate component of the program. The comprehensive examination may be taken only twice. Failure to pass the comprehensive examination may result in dismissal from the program.

Outline of the Psychology Components of the B.A./M.A. Accelerated Program in Forensic Psychology

Psychology (undergraduate) 24 credits

	Credits
CRIM1101 Introduction to Criminal Justice	3
CRIM2204 Juvenile Justice and Delinquency	3
PSYC1103 General Psychology	3
PSYC3202 Experimental Psychology	3
PSYC4500 Senior Seminar in Psychology	3
PSYC Field Placement, Independent Study or Co-op in Psychology	3
Psychology or Criminal Justice Elective*	3
Psychology Elective	3

Psychology (graduate) 36 credits

PSYC6109 Social Psychological Applications	3
PSYC6111 Theories of Personality	3
PSYC6114 Psychopathology	3
PSYC6121 Statistics and Research Methods	3
PSYC6130 Interviewing Techniques	3
PSYC6227 Clinical Practice in Forensic Context	3
PSYC6230 Introduction to Forensic Psychology	3

**Psychology/criminal justice elective is satisfied by completion of an approved forensic course. If course was taken at the undergraduate level, the graduate-level course must be substituted by an approved graduate course.*

Combined Degree Programs

B.A. in Psychology/M.A. in General/Theoretical Psychology

Credits

PSYC6231
Psychological Bases of Criminal Behavior....3
PSYC7230
Forensic Assessment and Prediction....3
PSYC7234
Ethical Issues in Forensic Practice....3
PSYC7235
Evaluating Criminal Responsibility and Competency....3
PSYC7240
Externship in Forensic Psychology....3

B.A. in Psychology/M.A. in General/Theoretical Psychology Five-year Program

The School of Psychology at the Metropolitan Campus, Teaneck, New Jersey, offers three programs that provide an opportunity for students to accelerate their training in psychology. These programs, leading to a master's degree in forensic psychology, general/theoretical psychology or in social work, may allow students to complete the typical B.A./M.A. or B.A./M.S.W. course sequence in just five years, rather than the usual six years of full-time study.

Entrance and Curriculum Requirements for the B.A./M.A. in General/Theoretical Psychology Program

Students can enter the program as incoming freshmen or as students already enrolled in an undergraduate program at Fairleigh Dickinson University (or as incoming transfer students). Current undergraduate students must first complete a minimum of 12 credits in psychology. Students' academic and work experiences should reflect a strong potential for successfully completing the academic requirements of the accelerated B.A./M.A. program. Academic potential for either incoming freshmen or current undergraduate students will be determined by the School of Psychology on the basis of the following: 1) SAT scores; 2) academic transcripts; 3) a minimum of two letters of recommendation; and 4) a personal statement regarding academic and career goals. The decision to accept applicants will be made on the basis of the foregoing data and a personal interview.

Students will be allowed to continue in the graduate component of the five-year degree program upon evaluation of their performance in the undergraduate component of the program; this evaluation will be performed by a committee of psychology faculty at the end of each student's fourth year. With regard to credits earned in graduate courses, students are required to maintain a minimum overall grade point ratio of 2.75 and must not earn more than two C-level grades throughout their graduate course work. Students receiving two or more grades below a B- in core courses will not be permitted to continue in the program. Students in this circumstance who are not permitted to continue in the graduate program will receive the B.A. in psychology upon successful completion of their undergraduate curriculum (a total of 120 credits).

A written comprehensive examination of the candidate's knowledge of general psychology or a master's thesis is required at the end of the graduate component of the program. The comprehensive examination may be taken only twice. Failure to pass the comprehensive examination will result in dismissal from the program.

Outline of the Psychology Components of the B.A./M.A. Program in General/Theoretical Psychology

Psychology (undergraduate) 30 credits

Credits

PSYC1103
General Psychology....3
PSYC2201
Statistics....3
PSYC2204
Child Development....3
PSYC2234
Social Psychology....3
PSYC3202
Experimental Psychology....3
PSYC3315
Abnormal Psychology....3
PSYC4500
Senior Seminar in Psychology....3
Psychology Electives....9

Psychology (graduate) 36 credits

Core Courses (6 credits)

PSYC6121
Statistics and Research Methods....3
PSYC6129
Research Methods and Psychometrics....3

Choose Five Courses From Below (15 credits)

PSYC6109
Social Psychological Applications....3
PSYC6111
Theories of Personality....3
PSYC6114
Psychopathology....3
PSYC6128
Computer Applications and Scientific Report Writing....3
PSYC7122
Developmental Psychology....3
PSYC7133
Learning, Cognition and Emotion....3
PSYC7130
Biological Bases of Behavior....3

Five Psychology Elective Courses (15 credits)

PSYC
Graduate Psychology Electives....15

B.A. in Psychology/M.A. in Industrial/Organizational Psychology

Five-year Program

The University offers separate and distinct accelerated programs for undergraduate psychology majors at its campuses.

At the Florham Campus, Madison, New Jersey, there is a program leading to a master's degree in industrial/organizational psychology (see this page).

The department of psychology and counseling at the Florham Campus, Madison, New Jersey, has a program designed to provide an opportunity for students to accelerate their training in psychology. This program, leading to a master's degree in industrial/organizational psychology, allows students to complete the typical B.A./M.A. course sequence in five years, rather than the usual six years, of full-time study.

Entrance and Curriculum Requirements

To apply, students must have completed a minimum of 60 undergraduate credits in an accredited two-year or four-year college or university, with a minimum of 9 credits in psychology. Courses in statistics and industrial psychology must be completed before applying. If students are transferring to the University, they must complete at least 12 credits at Fairleigh Dickinson University before they can apply to the accelerated program. Students' academic and work experiences should reflect a strong potential for successfully completing the academic requirements of the accelerated B.A./M.A. program. Academic potential will be determined by the graduate Admissions Committee of the department of psychology and counseling on the basis of the following: 1) completed application (available in the department), 2) academic transcripts, 3) a minimum of three letters of recommendation, 4) a résumé indicating prior work and life experience, 5) a personal statement regarding academic and career goals and 6) a personal interview. The decision to accept applicants will be made on the basis of the foregoing data.

Requirements for Successful Completion of Graduate Component of Accelerated Degree Programs

Students will be allowed to continue in the graduate component of the accelerated degree programs upon evaluation of performance in the undergraduate and graduate components of their particular programs. This evaluation will be performed by a committee of psychology faculty at the end of the students' fourth year. With regard to credits earned in graduate courses, students are required to maintain an overall grade point ratio of 3.00 and must not earn more than one C-level grade throughout graduate course work. Students in this circumstance who are not permitted to continue in the graduate program will receive the B.A. in psychology upon successful completion of their undergraduate curriculum (a total of 120 credits).

A written comprehensive examination of the candidate's knowledge of general psychology as well as his or her field of specialization is required at the end of these graduate psychology programs. Students are eligible to take this exam during the final semester in which they are enrolled in their graduate courses. The comprehensive examination may be taken only twice. Failure to pass the comprehensive examination will result in dismissal from the graduate program.

Industrial/Organizational Psychology

The specialization in industrial/organizational psychology is designed to equip the graduate with a working knowledge of practices and procedures in applying psychology in a variety of organizational settings. Accordingly, the emphasis is on those aspects of industrial/organizational psychology that are most immediately useful to the student in a working environment.

Specific Course Requirements for Industrial/Organizational Psychology

Students who complete the combined B.A. and M.A. program must meet all requirements in the following areas: 1) arts and sciences core (48–50 credits); 2) free electives (28–31 credits); 3) psychology, undergraduate, core and electives (26–27 credits); and 4) psychology, graduate, core and electives (36 credits). It is expected that many of the courses in the arts and sciences core and free electives will have been completed by the time students have accumulated the minimum of 60 undergraduate credits needed for admission to the program. Most of the psychology courses, undergraduate and graduate, would be taken in the last three years of the program, with the final year devoted exclusively to graduate courses.

Outline of the Psychology Components of the B.A./M.A. Program in Industrial/Organizational Psychology

Psychology (undergraduate) 26 credits

	Credits
PSYC1201 General Psychology	3
PSYC2210 Psychological Statistics	4
PSYC2211 Research Methods	4
PSYC3005 Abnormal Psychology	3
PSYC3310 Social Psychology	3
PSYC3322 Industrial Psychology	3
PSYC4291 History and Systems of Psychology	3
Experimental Elective (to be selected from PSYC3032 Physiological Psychology, PSYC3331 Theories of Learning, PSYC3333 Sensation and Perception, PSYC4130 Behavioral Neuroscience Methods)	3

The next group of courses are graduate courses for which students would be given dual credit toward their B.A. and M.A. requirements. These courses would be taken during the third, fourth and fifth years.

COUN7706 Lifestyle and Career Counseling	3
PSYC6300 Psychological Statistics	3
PSYC6301 Group Dynamics and Team Leadership	3
PSYC6302 Organizational Psychology	3
PSYC6303 Research Methods and Design	3
PSYC6304 Personnel Selection	3
PSYC6305 Psychometrics	3
PSYC6306 Behavioral Consulting in Organizations	3
PSYC6308 Human Resources Development	3
PSYC7700 Industrial/Organizational Internship	3

Graduate Thesis or Electives 6 credits

PSYC7803, PSYC7804 Research and Thesis	6
or	
PSYC6307 Techniques of Interviewing	3
PSYC7745 Leadership Studies	3

Combined Degree Programs

B.A. in Psychology/M.S.W.

B.A. in Psychology/M.S.W. Five-year Program

The School of Psychology at the Metropolitan Campus, Teaneck, New Jersey, offers three programs that provide an opportunity for students to accelerate their training in psychology. These programs, leading to a master's degree in forensic psychology, general/theoretical psychology or in social work, allow students to complete the typical B.A./M.A. or B.A./M.S.W. course sequence in just five years, rather than the usual six years of full-time study.

Entrance and Curriculum Requirements for the B.A./M.S.W. Program

This program is offered in cooperation with the Rockland Branch Campus of the New York University (NYU) Silver School of Social Work, located in Sparkill, N.Y. Students earn their B.A. in psychology from Fairleigh Dickinson University and their Master of Social Work (M.S.W.) from NYU. Students can enter this program as incoming freshmen or as students already enrolled in an undergraduate program at Fairleigh Dickinson University (or as incoming transfer students). Students' academic and work experiences should reflect a strong potential for successfully completing the academic requirements of the B.A./M.S.W. program. Academic potential for either incoming freshmen or current undergraduate students will be determined by the School of Psychology on the basis of the following: 1) SAT scores; 2) academic transcripts; 3) a minimum of two letters of recommendation; and 4) a personal statement regarding academic and career goals. Admission to this program is on the basis of the foregoing data and a personal interview. Current undergraduate students can apply for admission to this program only after completing 64 credits of undergraduate course work, including no less than 18 credits in psychology. In addition, current undergraduate students must have a cumulative grade point ratio (CGPR) of at least 3.00 and a psychology grade point ratio of at least 3.25 in order to be considered for admission to this program (and to maintain matriculation in this program).

Students will be allowed to continue in the graduate portion of this five-year degree program at the Rockland Branch Campus of the NYU Silver School of Social Work upon evaluation of their performance in the undergraduate portion of the program at FDU; this evaluation will be performed by a committee of psychology faculty from FDU and NYU in the middle of each student's fourth year.

Concerning graduate course work, students will be required to maintain at least a B average with a grade of B or better in each course. Students who fail to maintain at least a B average or better in their graduate course work or who receive a grade below a B in any graduate course may be terminated from the graduate portion of the program. In such cases, students will receive the B.A. in psychology from FDU upon successful completion of their undergraduate curriculum (a total of 120 credits), including up to 13 credits taken at NYU.

Outline of the Psychology/Social Work Components of the B.A./M.S.W. Program

Psychology and Sociology (undergraduate) ***39 credits***

	Credits
PSYC1103 General Psychology	3
PSYC2201 Statistics	3
PSYC2204 Child Development	3
PSYC2234 Social Psychology	3
PSYC3202 Experimental Psychology	3
PSYC3315 Abnormal Psychology	3
PSYC3384 Theories of Personality	3
PSYC4500 Senior Seminar in Psychology	3

New York University Graduate Courses (65 credits)

	Credits
Social Welfare Programs and Policies I	3
Human Behavior in the Social Environment I	3
Human Behavior in the Social Environment II	3
Human Behavior in the Social Environment III	3
Social Work Research I	3
Social Work Research II	3
Social Work Practice I	4
Social Work Practice II	3
Social Work Practice III	3
Social Work Practice IV	3
Clinical Practice with Groups	3
Advanced Social Policy	3
Diversity, Racism, Oppression and Privilege	3
Field Instruction II	4
Field Instruction III	4
Field Instruction IV	4
Electives	13

B.A. in Sports Administration/ Master of Sports Administration

Five-year Program

The five-year program allows qualified students to attain a Bachelor of Arts degree in sports administration and a Master of Sports Administration.

Students in the combined B.A. in sports administration/M.S.A. program must have achieved at least a 3.00 cumulative grade point ratio by the conclusion of their junior year.

Requirements

Metropolitan Campus

First Year

1st Semester Credits

ENWR1001
Composition I: Rhetoric and Inquiry..... 3
INTER1009
Perspectives on the Individual..... 3
SOCI1101
Introductory Sustainability..... 3
SPAD2004
Introduction to Sports Administration..... 3
SUST1000
Introduction to Sustainability..... 3
UNIV1001
Transitioning to University Life..... 1
Total..... 16

2nd Semester

ENWR1002
Composition II: Research and Argument..... 3
MATH1101
Comprehensive Mathematics
or
MATH1131
College Mathematics I
or
MATH1141
Introduction to Mathematical Methods..... 3
MIS1135
Introduction to Computers
or
MIS1045
Information Technology for Business.... 3
PSYC1103
General Psychology..... 3
SPAD
Section B* Course..... 3
UNIV1002
Preparing for Professional Life..... 1
Total..... 16

Second Year

3rd Semester Credits

COMM
Communication Course 2000 or above..... 3
ECON1122
Microeconomics..... 3
INTER2013
The American Experience..... 3
SPAD
Section B* Course..... 3
UNIV2001
Cross-cultural Perspectives..... 3
Total..... 15

4th Semester

ECON1121
Macroeconomics..... 3
INTER2008
Literature and Culture Seminar..... 3
SPAD4000
International Sports Administration (every two years)
or
SPAD
Section B* Course..... 3
SPAD
Section C** Course..... 3
UNIV2002
Global Issues..... 3
Total..... 15

Third Year

5th Semester

PHYS1026, PHYS1126
Earth Physics (Lecture and Laboratory)..... 4
SPAD2022
Facility Management..... 3
SPAD2025
Global Perspectives in Sports..... 3
SPAD
Section B* Course..... 3
SPAD
Section C** Course..... 3
Total..... 16

6th Semester

SPAD2018
Sports Internship..... 3
SPAD3010
Job-search Strategies..... 1
SPAD
Section C** Course..... 3
Free Electives..... 6
Total..... 13

**See Section B page 226 .*
***See Section C page 226.*

Fourth Year

7th Semester Credits

BUSI3620
Human Resource Systems..... 3
MSA6701
Legal Issues in the Domestic and International Sports Industry.... 3
MSA6702
Sports Administration Research and Policy Analysis..... 3
MSA Elective..... 3
Free Elective..... 3
Total..... 15

8th Semester

MSA6602
Facility Development, Administration and Programming.... 3
MSA6603
Sports Marketing and Promotion..... 3
MSA6703
Financial Administration in Sports..... 3
SPAD4000
International Sports Administration (every two years)
or
SPAD
Section B* Course..... 3
Free Elective..... 2
Total..... 14

Fifth Year

9th Semester

MSA6601
Organizational Leadership and Team Development..... 3
MSA6607
Human Resource Administration in Sports Organizations..... 3
MSA Elective..... 3
Total..... 9

10th Semester

MSA6704
Internship I or Individual Job-related Project..... 3
MSA6705
Strategic Planning, Implementation and Evaluation..... 3
MSA Elective..... 3
Total..... 9

Students will be required to complete the following:

**See Section B page 226.*

Combined Degree Programs

B.A. in Sports Administration/Master of Sports Administration

Section B (12 credits)

SPAD2010	Legal Aspects in Sports Administration
SPAD2014	Ethical Issues in Sports
SPAD2015	Team Development
SPAD2017	Safety, First Aid and Prevention of Injury
SPAD2019	Sports, Marketing, Public Relations
SPAD2020	Fundraising in Sports
SPAD3000	Fiscal Concept in Sports
SPAD4001	Sports Internship II
SPAD4500	Coaching Certification

Section C (9 credits)

ACCT1131	Accounting I
ACCT1132	Accounting II
LAW2276	Business and the Law
SPAD2012	Nutrition and Wellness
SPAD2013	Exercise Science for the Sports Administration Professional
SPAD2016	Stress Management
SPAD2021	Strength and Conditioning
SPAD2030	Ultimate Sports Marketing
SPAD3001	Theory, Philosophy and Principles of Coaching
SPAD3002	Human Kinesiology
SPAD3003	Sports and Society
SPAD3004	Youth Program Administration
SPAD3005	Management in Athletic Training, Athletics and Health

Free Electives (11 credits)

Florham Campus

First Year

1st Semester Credits

ENGL1101
English Composition I.....3
INTER1009
Perspectives on the Individual.....3
PSYC1201
General Psychology.....3
SPAD2004
Introduction to Sports Administration.....3
SUST1000
Introduction to Sustainability.....3
UNIV1001
Transitioning to University Life.....1
Total.....16

2nd Semester Credits

ENGL1102
English Composition II.....3
MATH1126
Contemporary Mathematics
or
MATH1128
Mathematical Methods.....3
MIS1045
Information Technology for Business....3
SOCI1201
Introduction to Sociology.....3
SPAD2022
Facility Management.....3
UNIV1002
Preparing for Professional Life.....1
Total.....16

Second Year

3rd Semester

COMM
Communication Course 2000 or above.....3
ECON2001
Introduction to Microeconomics.....3
INTER2013
The American Experience.....3
SPAD
Section B* Course.....3
UNIV2001
Cross-cultural Perspectives.....3
Total.....15

4th Semester

ECON2102
Introduction to Macroeconomics.....3
SPAD4000
International Sports Administration (every two years)
or
SPAD
Section B* Course.....3
UNIV2002
Global Issues.....3
Foreign Language with Lab**.....4
Free Elective.....3
Total.....16

**See Section B page 227.*
***Only Florham Campus students must complete a foreign language requirement (i.e., Spanish, French, German, Italian, Japanese, sign language, etc.).*

Third Year

5th Semester Credits

BIOL1070, BIOL1071
Ecosystem and Environmental Science (Lecture and Laboratory)....4
BUSI3620
Human Resource Systems.....3
SPAD2025
Global Perspectives in Sports.....3
SPAD
Section B* Courses.....3
SPAD
Section C** Course.....3
Total.....16

6th Semester

SPAD2018
Sports Internship.....3
SPAD3010
Job-search Strategies.....1
SPAD
Section C** Course.....3
Free Electives.....6
Total.....13

Fourth Year

7th Semester

MSA6608
Sports Risk Assessment.....3
MSA6701
Legal Issues in the Domestic and International Sports Industry....3
MSA6702
Sports Administration Research and Policy Analysis.....3
SPAD
Section C** Course.....3
Free Elective.....3
Total.....15

8th Semester

MSA6602
Facility Development, Administration and Programming....3
MSA6603
Sports Marketing and Promotions.....3
MSA6703
Financial Administration in Sports.....3
SPAD4000
International Sports Administration (every two years)
or
SPAD
Section B* Course.....3
Free Elective.....1
Total.....13

**See Section B page 227.*
***See Section C page 227.*

Fifth Year

9th Semester Credits

MSA6601
Organizational Leadership and Team Development..... 3
MSA6607
Human Resource Administration in Sports Organizations.....3
MSA Elective.....3
Total.....9

10th Semester

MSA6704
Internship I or Individual Job-related Project.....3
MSA6705
Strategic Planning, Implementation and Evaluation..... 3
MSA Elective.....3
Total.....9

Students will be required to complete the following:

Section B (9 credits)

SPAD2010	Legal Aspects in Sports Administration
SPAD2014	Ethical Issues in Sports
SPAD2015	Team Development
SPAD2017	Safety, First Aid and Prevention of Injury
SPAD2019	Sports, Marketing, Public Relations
SPAD2020	Fundraising in Sports
SPAD3000	Fiscal Concept in Sports
SPAD4001	Sports Internship II
SPAD4500	Coaching Certification

Section C (9 credits)

ACCT1131	Accounting I
ACCT1132	Accounting II
LAW2276	Business and the Law
SPAD2012	Nutrition and Wellness
SPAD2013	Exercise Science for the Sports Administration Professional
SPAD2016	Stress Management
SPAD2021	Strength and Conditioning
SPAD2030	Ultimate Sports Marketing
SPAD3001	Theory, Philosophy and Principles of Coaching
SPAD3002	Human Kinesiology
SPAD3003	Sports and Society
SPAD3004	Youth Program Administration
SPAD3005	Management in Athletic Training, Athletics and Health

Free Electives (13 credits)

B.S. in Accounting/ M.S. in Accounting Five-year Program (4+1)

Fairleigh Dickinson University now offers a comprehensive 150-hour program (4+1) leading to the combined Bachelor of Science/Master of Science in accounting degree. This cutting-edge program features state-of-the-art studies in accounting, taxation and law designed to prepare the student for employment in either the public or private accounting sector.

Entrance and Curriculum Requirements for the B.S./M.S. Program

The B.S./M.S. in accounting program is open to any accounting major admitted to the University. After completing the first 75 credits at the undergraduate level, first semester junior year students are eligible to join the 4+1 in the upper level of the 150-hour B.S./M.S. program if they comply with the requirements for the M.B.A. program.

A personal interview with the director of the program also may be required.

Acceptance into the program takes place in the fifth semester of the undergraduate program. Students will complete the following curriculum requirements, beginning with the sixth semester. During the spring semester following the completion of the undergraduate portion of the program, students commence the graduate portion of the program, which will be completed during the following fall semester.

Admission requirements for the graduate portion of this program apply.

Components of the B.S./M.S. Program in Accounting

9th Semester Credits

ACCT6606
Federal Tax II: Business Entities*..... 3
ACCT6680
Selected Accounting Topics*..... 3
LAW6657
Applied Business Law*.....3
Graduate Accounting Elective*..... 3
Graduate Business Elective*.....3
Total..... 15

10th Semester Credits

ACCT6682
Advanced Auditing*.....3
ACCT6690
Seminar: Accounting and Auditing Case Studies*..... 3
Graduate Tax/Finance/Accounting Elective*.....3
Graduate Business Electives*.....6
Total.....15

**Designates graduate-level course.*

**Designates graduate-level course.*

Combined Degree Programs

B.S. in Accounting/M.B.A.
B.S. in Biochemistry/M.S. in Applied Clinical Nutrition

B.S. in Accounting/M.B.A.

Fairleigh Dickinson University also offers a combined degree program: B.S. in accounting/M.B.A. For information contact undergraduate programs and student services, Silberman College of Business, at 201-692-7206.

Admission requirements for the graduate portion of this program apply.

B.S. in Biochemistry/M.S. in Applied Clinical Nutrition

Five-year Program

(with School of Health Sciences and Education, New York Chiropractic College)

This accelerated, combined degree program provides qualified students the opportunity to complete the bachelor's degree and a master's degree in five years, one year less than the normal span of six years. The bachelor's degree (B.S. in biochemistry) is awarded by Fairleigh Dickinson University and the master's degree (M.S.) is offered online by the School of Health Sciences and Education of the New York Chiropractic College (NYCC) in Seneca Falls, N.Y.

The NYCC comprehensive professional education focuses on nutrition and its application in prevention and disease management, preparing graduates to practice in a wide range of clinical, consulting and industry settings. The program emphasizes an integrative approach to health care (www.nycc.edu/AcademicPrograms_MSACNprogram.htm).

Students are admitted at FDU as incoming freshmen or qualified transfer students. They may apply for the B.S. degree upon successful completion of six semesters at FDU, including the courses listed on pages 235–236, and the first three trimesters at NYCC. A maximum of 32 credits from NYCC may be transferred toward completion of the B.S. degree at FDU.

Admission to the Combined Degree Program

High school seniors with a combined SAT score of 1150 (at least 600 math and 550 verbal) or 25 on ACT and higher and ranking in the top 25 percent of their class or qualified students who have completed their first year of college study with a grade point ratio of 3.00 or higher may apply for admission to the combined degree program.

After a preliminary screening of the applications by the FDU Office of Admissions, qualified applicants will be invited to sit for an interview with the FDU/NYCC Joint Admissions Committee. Recommendation from the preprofessional adviser is required.

Combined Degree Program Requirements

While enrolled at FDU, students are required to follow the accelerated preprofessional curriculum in biochemistry and are expected to maintain a minimum cumulative grade point ratio of 3.00 or higher in all course work and a minimum of C in all science courses.

Qualifying for Enrollment at School of Health Sciences and Education of New York Chiropractic College (NYCC)

Qualified students enrolled in the combined degree program will be guaranteed a seat at NYCC for training in applied clinical nutrition. To qualify, students must meet the following criteria:

- Completion of all FDU curriculum requirements, including the general education requirements and the degree program requirements for the major and all prerequisite courses required for admission at NYCC. Students need to obtain a grade of C or higher in science and math courses;
- A grade point ratio of 3.00 or higher;
- Students currently enrolled at FDU who seek admission to the combined degree program must apply to the School of Natural Sciences, University College: Arts • Sciences • Professional Studies, Metropolitan Campus, Teaneck, N.J., prior to the completion of 60 credit hours at FDU or at least one year before the anticipated date of matriculation at NYCC; and
- Students enrolled in the combined degree program who decide to complete the B.S. degree at FDU prior to entering NYCC must make this known to their school director or department chair prior to the completion of 60 credits at FDU or at least one year before the anticipated date of matriculation at NYCC.

Prenutrition Curriculum

Under the provisions of the prenutrition program, students matriculate in the School of Natural Sciences of University College: Arts • Sciences • Professional Studies for a minimum of 98 credits of course work leading to the B.S. in biochemistry (preprofessional option). The curriculum is as follows:

1st Semester Credits

BIOL1251, BIOL1253
General Biology I (Lecture and Laboratory).....4
CHEM1201
General Chemistry I.....3
CHEM1203
General Chemistry Laboratory I.....1
ENWR1001
Composition I: Rhetoric and Inquiry.....3
MATH1201
Calculus I.....4
UNIV1001
Transitioning to University Life.....1
Total.....16

2nd Semester

BIOL1252, BIOL1254
General Biology II (Lecture and Laboratory).....4
CHEM1202
General Chemistry II.....3
CHEM1204
General Chemistry Laboratory II.....1
ENWR1002
Composition II: Research and Argument.....3
MATH2202
Calculus II.....4
UNIV1002
Preparing for Professional Life.....1
Total.....16

3rd Semester

CHEM2261
Organic Chemistry I.....3
CHEM2263
Organic Chemistry Laboratory I.....2
PHYS2201
Physics Laboratory I.....1
PHYS2203
University Physics I.....3
UNIV2001
Cross-cultural Perspectives.....3
Humanities Course*.....3
Total.....15

4thSemester Credits

CHEM2262
Organic Chemistry II.....3
CHEM2264
Organic Chemistry Laboratory II.....2
PHYS2202
Physics Laboratory II.....1
PHYS2204
University Physics II.....3
UNIV2002
Global Issues.....3
Humanities Course*.....3
Total.....15

5th Semester

CHEM3241
Physical Chemistry I.....3
CHEM3243
Physical Chemistry Laboratory I.....2
CHEM3281
Biochemistry I.....3
Advanced Mathematics Course**.....3
Social and Behavioral Sciences Elective***.....3
Total.....14

6th Semester

BIOL6733
Enzymology.....3
CHEM3242
Physical Chemistry II****.....3
CHEM3244
Physical Chemistry Laboratory II*****.....2
Concentration Electives.....6
Total.....14

**Take 3 credits from ENGL (except developmental English), HIST, HUMN, LANG, PHIL or RELI courses. Or take ART1103 Principles of Art Appreciation, ART1107 Development of Art I, ART1108 Development of Art II, ART1120 Modern Art to Mid-century, ART1131 History of Graphic Design and Illustration, ART1133 History of Photography, ART1135 Cinema I: The Director's Vision, ART1136 Cinema II: Themes in Films, ART1137 History of Fashion Design, ART2137 Global Roots of American Architecture or ART2238 The Global Art World.*

**Take 3 credits from ENGL, HIST, HUMN, LANG, PHIL or RELI courses at the 2000-level or above.*
***MATH2203 Calculus III or MATH2337 Applied Statistics I.*
****Three credits of a Social and Behavioral Sciences Elective (any COMM, CRIM, POLS, PSYC or SOCI course).*
*****May be replaced by CHEM3231 Analytical Chemistry.*
******May be replaced by CHEM4234 Instrumental Analysis Laboratory.*

B.S. in Biochemistry/ M.S. in Chemistry with Pharmaceutical Chemistry Concentration

Five-year Program

The University offers a five-year program that allows qualified students to attain a Bachelor of Science degree in biochemistry and a Master of Science degree in chemistry with a pharmaceutical chemistry concentration.

Students applying to this program must have completed 62 credits and achieved a minimum grade point ratio of 3.00. Students must apply by the end of their junior year.

Undergraduate Courses

1st Semester Credits

BIOL1251, BIOL1253
General Biology I (Lecture and Laboratory).....4
CHEM1201
General Chemistry I.....3
CHEM1203
General Chemistry Laboratory I.....1
ENWR1001
Composition I: Rhetoric and Inquiry.....3
MATH1201
Calculus I.....4
UNIV1001
Transitioning to University Life.....1
Total.....16

2nd Semester

BIOL1252, BIOL1254
General Biology II (Lecture and Laboratory).....4
CHEM1202
General Chemistry II.....3
CHEM1204
General Chemistry Laboratory II.....1
ENWR1002
Composition II: Research and Argument.....3
MATH2202
Calculus II.....4
UNIV1002
Preparing for Professional Life.....1
Total.....16

3rd Semester

CHEM2261
Organic Chemistry I.....3
CHEM2263
Organic Chemistry Laboratory I.....2
PHYS2201
Physics Laboratory I.....1

Combined Degree Programs

B.S. in Biochemistry/M.S. in Cosmetic Science

Credits

PHYS2203
University Physics I.....3
UNIV2001
Cross-cultural Perspectives.....3
Humanities Course*.....3
Total.....15

4th Semester

CHEM2262
Organic Chemistry II.....3
CHEM2264
Organic Chemistry Laboratory II..... 2
PHYS2202
Physics Laboratory II..... 1
PHYS2204
University Physics II.....3
UNIV2002
Global Issues.....3
Humanities Course**.....3
Total.....15

5th Semester

CHEM3241
Physical Chemistry I..... 3
CHEM3243
Physical Chemistry Laboratory I..... 2
CHEM3281
Biochemistry I.....3
Advanced Mathematics Course***.....3
Social and Behavioral Sciences
Elective****.....3
Total.....14

**Take 3 credits from ENGL (except developmental English), HIST, HUMN, LANG, PHIL or RELI courses. Or take ART1103 Principles of Art Appreciation, ART1107 Development of Art I, ART1108 Development of Art II, ART1120 Modern Art to Mid-century, ART1131 History of Graphic Design and Illustration, ART1133 History of Photography, ART1135 Cinema I: The Director's Vision, ART1136 Cinema II: Themes in Films, ART1137 History of Fashion Design, ART2137 Global Roots of American Architecture or ART2238 The Global Art World.*
***Take 3 credits from ENGL, HIST, HUMN, LANG, PHIL or RELI courses at the 2000-level or above.*
****Selected from MATH2203 Calculus III or MATH2337 Applied Statistics I.*
*****Three credits of a Social and Behavioral Sciences Elective (any COMM, CRIM, POLS, PSYC or SOCI course).*

8th Semester Credits

CHEM4233
Instrumental Analysis.....3
CHEM4234
Instrumental Analysis Laboratory.....2
CHEM4314, CHEM3314
Inorganic Chemistry II (Lecture
and Laboratory).....3
Pharmaceutical Chemistry Requirement.....3
Graduate Elective.....3
Total.....14

9th Semester

Pharmaceutical Chemistry Requirements....9
Graduate Elective.....3
Total.....12

10th Semester

Pharmaceutical Chemistry Requirement..... 3
Pharmaceutical Chemistry Electives.....6
Graduate Elective.....3
Total.....12

Graduate Course Requirements

Students should consult with their advisers for course selections and new course offerings.

Required Courses (18 credits)

CHEM6673
Physical Organic Chemistry.....3
CHEM6754
Drug-delivery Systems.....3
CHEM6755
Medicinal Chemistry.....3
CHEM6781
Biochemistry.....3
CHEM7737
Chemical Analysis of Pharmaceuticals.. 3
and
A graduate COMM course (6000 level).....3

Pharmaceutical Chemistry Electives (6 credits)

MATH6737
Applied Statistics I.....3
Any 5000- or higher-level BIOL,
CHEM, COMM, COSC, MGMT,
MKTG or PHYS course.....3

A minimum of 121 credits is required for the B.S. degree, and a minimum of an additional 24 credits for the M.S. degree.

B.S. in Biochemistry/M.S. in Cosmetic Science

Five-year Program

The University offers a five-year program that allows qualified students to attain a Bachelor of Science degree in biochemistry and a Master of Science degree in cosmetic science. This program is designed for students who plan a career in the cosmetic, toiletries or fragrance industries.

Students applying to this program must have completed 62 credits and achieved a minimum grade point ratio of 3.00. Students must apply by the end of their junior year.

Undergraduate Courses

1st Semester Credits

BIOL1251, BIOL1253
General Biology I (Lecture
and Laboratory).....4
CHEM1201
General Chemistry I.....3
CHEM1203
General Chemistry Laboratory I.....1
ENWR1001
Composition I: Rhetoric and Inquiry.... 3
MATH1201
Calculus I.....4
UNIV1001
Transitioning to University Life..... 1
Total.....16

2nd Semester

BIOL1252, BIOL1254
General Biology II (Lecture
and Laboratory).....4
CHEM1202
General Chemistry II..... 3
CHEM1204
General Chemistry Laboratory II..... 1
ENWR1002
Composition II: Research and
Argument..... 3
MATH2202
Calculus II.....4
UNIV1002
Preparing for Professional Life.....1
Total.....16

3rd Semester

CHEM2261
Organic Chemistry I.....3
CHEM2263
Organic Chemistry Laboratory I..... 2
PHYS2201
Physics Laboratory I.....1

	Credits
PHYS2203 University Physics I	3
UNIV2001 Cross-cultural Perspectives	3
Humanities Course*	3
Total	15

4th Semester

	Credits
CHEM2262 Organic Chemistry II	3
CHEM2264 Organic Chemistry Laboratory II	2
PHYS2202 Physics Laboratory II	1
PHYS2204 University Physics II	3
UNIV2002 Global Issues	3
Humanities Course**	3
Total	15

5th Semester

	Credits
CHEM3241 Physical Chemistry I	3
CHEM3243 Physical Chemistry Laboratory I	2
CHEM3281 Biochemistry I	3
Advanced Mathematics Course***	3
Social and Behavioral Sciences Elective****	3
Total	14

6th Semester

	Credits
BIOL6733 Enzymology	3
CHEM3242 Physical Chemistry II	3
CHEM3244 Physical Chemistry Laboratory II	2
Speech Course	3
Free Elective	3
Total	14

**Take 3 credits from ENGL (except developmental English), HIST, HUMN, LANG, PHIL or RELI courses. Or take ART1103 Principles of Art Appreciation, ART1107 Development of Art I, ART1108 Development of Art II, ART1120 Modern Art to Mid-century, ART1131 History of Graphic Design and Illustration, ART1133 History of Photography, ART1135 Cinema I: The Director's Vision, ART1136 Cinema II: Themes in Films, ART1137 History of Fashion Design, ART2137 Global Roots of American Architecture or ART2238 The Global Art World.*
***Take 3 credits from ENGL, HIST, HUMN, LANG, PHIL or RELI courses at the 2000-level or above.*
****MATH2203 Calculus III or MATH2337 Applied Statistics I.*
*****Three credits of a Social and Behavioral Sciences Elective (any COMM, CRIM, POLS, PSYC or SOCI course).*

7th Semester

	Credits
BIOL2210, BIOL2211 Genetics (Lecture and Laboratory)	4
BIOL4405 Ethics in Science	3
CHEM2211 Inorganic Chemistry I	3
CHEM3231, CHEM3232 Analytical Chemistry (Lecture and Laboratory)	4
Cosmetic Science Requirement	3
Total	17

8th Semester

	Credits
CHEM4233 Instrumental Analysis	3
CHEM4234 Instrumental Analysis Laboratory	2
CHEM4314, CHEM3314 Inorganic Chemistry II (Lecture and Laboratory)	3
Cosmetic Science Requirement	3
Cosmetic Science Elective	3
Total	14

9th Semester

	Credits
Cosmetic Science Requirements	6
Cosmetic Science Elective	3
Graduate Requirement	3
Total	12

10th Semester

	Credits
COSC6548 Cosmetic Science Laboratory	2
Cosmetic Science Requirements	6
Graduate Requirement	3
Total	11

Graduate Course Requirements

Students should consult with their advisers for course selections and new course offerings.

Required Courses (20 credits)

	Credits
BIOL6756 Dermal Pharmacology and Immunology	3
CHEM6526 Product Development	3
CHEM6529 Microtoxicology and Biochemistry	3
COSC6543 Hair-care Raw Materials and Formulations	3
COSC6547 Skin-care Raw Materials and Formulations	3
COSC6548 Cosmetic Science Laboratory	2
PHYS6753 Applied Colloid and Surface Science	3

Cosmetic Science Electives (3 credits)

	Credits
CHEM6546 Perfumery	3
CHEM6773 Polymer Chemistry	3
CHEM6781 Biochemistry	3
COSC6542 Claims Substantiation	3
COSC6549 Color Cosmetics	3

A minimum of 120 credits is required for the B.S. degree, and a minimum of an additional 23 credits for the M.A. degree.

Combined Degree Programs

B.S. in Biology/M.S. in Acupuncture and Oriental Medicine

B.S. in Biology/M.S. in Acupuncture and Oriental Medicine

Five-year Program

(with Finger Lakes School of Acupuncture and Oriental Medicine, New York Chiropractic College)

This accelerated, combined degree program provides qualified students the opportunity to complete the bachelor's degree and a master's degree in five years, one year less than the normal span of six years. The bachelor's degree (B.S. in biology) is awarded by Fairleigh Dickinson University and the master's degree (M.S.) is from the Finger Lakes School of Acupuncture and Oriental Medicine (FLSAOM) of New York Chiropractic College in Seneca Falls, N.Y.

The FLSAOM program provides a comprehensive professional education in acupuncture and oriental medicine that, combined with instruction in biomedicine, prepares graduates to practice in a wide range of clinical settings. The programs emphasize an integrative and holistic approach (http://aom.nycc.edu).

Students are admitted at FDU as incoming freshmen or qualified transfer students. They may apply for the B.S. degree upon successful completion of six semesters at FDU, including the courses listed below, and the first three trimesters at FLSAOM. A maximum of 32 credits from FLSAOM may be transferred toward completion of the B.S. degree at FDU.

Admission to the Combined Degree Program

High school seniors with a combined SAT score of 1150 (at least 600 math and 550 verbal) or 25 on ACT and higher and ranking in the top 25 percent of their class or qualified students who have completed their first year of college study with a grade point ratio of 3.10 or higher may apply for admission to the combined degree program.

After a preliminary screening of the applications by the FDU Office of Admissions, qualified applicants will be invited to sit for an interview with the FDU/FLSAOM Joint Admissions Committee. Recommendation from the preprofessional adviser is required.

Combined Degree Program Requirements

While enrolled at FDU, students are required to follow the accelerated preprofessional curriculum in biology and are expected to maintain a minimum cumulative grade point ratio of 3.10 or higher in all course work and a minimum of C in all science and math courses.

Qualifying for Enrollment at Finger Lakes School of Acupuncture and Oriental Medicine (FLSAOM)

Qualified students enrolled in the combined degree program will be guaranteed a seat at FLSAOM for training in acupuncture and oriental medicine. To qualify, students must meet the following criteria:

- Completion of all FDU curriculum requirements, including the general education requirements and the degree program requirements for the major and all prerequisite courses required for admission at FLSAOM. Students need to obtain a grade of C or higher in science and math courses;
- A grade point ratio of 3.10 or higher;
- Students currently enrolled at FDU who seek admission to the combined degree program must apply to the School of Natural Sciences, University College: Arts • Sciences • Professional Studies, Metropolitan Campus, Teaneck, N.J., prior to the completion of 60 credit hours at FDU or at least one year before the anticipated date of matriculation at FLSAOM; and
- Students enrolled in the combined degree program who decide to complete the B.S. degree at FDU prior to entering FLSAOM must make this known to their school director or department chair prior to the completion of 60 credits at FDU or at least one year before the anticipated date of matriculation at FLSAOM.

Pre-acupuncture and Oriental Medicine Curriculum

Under the provisions of the pre-acupuncture and oriental medicine program, students matriculate in the School of Natural Sciences of University College: Arts • Sciences • Professional Studies for a minimum of 98 credits of course work leading to the B.S. in biology (preprofessional option). The curriculum is as follows:

1st Semester Credits

BIOL1251, BIOL1253
General Biology I (Lecture and Laboratory)..... 4
CHEM1201
General Chemistry I.....3
CHEM1203
General Chemistry Laboratory I.....1
ENWR1001
Composition I: Rhetoric and Inquiry.....3
UNIV1001
Transitioning to University Life.....1
Total.....12

2nd Semester

BIOL1252, BIOL1254
General Biology II (Lecture and Laboratory)..... 4
CHEM1202
General Chemistry II.....3
CHEM1204
General Chemistry Laboratory II.....1
ENWR1002
Composition II: Research and Argument.....3
UNIV1002
Preparing for Professional Life.....1
Mathematics Sequence*.....4
Total.....16

3rd Semester

BIOL2250, BIOL2150
Ecology and Field Biology (Lecture and Laboratory)
or
MBIO1209, MBIO1219
Introduction to Marine Biology (Lecture and Laboratory).....4
CHEM2261
Organic Chemistry I..... 3
CHEM2263
Organic Chemistry Laboratory I.....2
Mathematics Sequence*.....4
Humanities Course**.....3
Total.....16

**In the freshman year, students are required to take either precalcululs or calculus. The first-year course must be followed by a second mathematics course in sequence, i.e., Calculus I or Calculus II.*
***Take 3 credits from ENGL (except developmental English), HIST, HUMN, LANG, PHIL or RELI courses. Or take ART1103 Principles of Art Appreciation, ART1107 Development of Art I, ART1108 Development of Art II, ART1120 Modern Art to Mid-century, ART1131 History of Graphic Design and Illustration, ART1133 History of Photography, ART1135 Cinema I: The Director's Vision, ART1136 Cinema II: Themes in Films, ART1137 History of Fashion Design, ART2137 Global Roots of American Architecture or ART2238 The Global Art World.*

4th Semester Credits

BIOL2210, BIOL2211
Genetics (Lecture and Laboratory).....4
BIOL2300
Experimental Design.....3
CHEM2262
Organic Chemistry II.....3
CHEM2264
Organic Chemistry Laboratory II.....2
UNIV2002
Global Issues.....3
Humanities Course*..... 3

Total.....18

5th Semester

BIOL2237, BIOL2239
Human Structure and Function I
(Lecture and Laboratory)..... 4
BIOL3225, BIOL3226
General Microbiology
(Lecture and Laboratory)..... 4
BIOL4900
Biology Seminar I.....1
PHYS2201
Physics Laboratory I.....1
PHYS2203
University Physics I.....3
UNIV2001
Cross-cultural Perspectives.....3
Total.....16

6th Semester

BIOL4240, BIOL4241
Molecular Cell Biology
(Lecture and Laboratory).....4
BIOL4405
Ethics in Science.....3
CHEM3281
Biochemistry I.....3
PHYS2202
General Physics Laboratory II.....1
PHYS2204
University Physics II.....3
Oral Communication Elective.....3
Total.....17

**Take 3 credits from ENGL, HIST, HUMN, LANG, PHIL or RELI courses at the 2000-level or above.*

B.S. in Biology/M.S. in Biology Five-year Program

The University offers a five-year program that allows qualified students to attain a Bachelor of Science degree in biology and a Master of Science degree in biology at the Metropolitan Campus.

Metropolitan Campus Sequence Undergraduate Courses

1st Semester Credits

BIOL1251
General Biology I.....3
BIOL1253
Laboratory: General Biology I.....1
CHEM1201
General Chemistry I.....3
CHEM1203
General Chemistry Laboratory I.....1
ENWR1001
Composition I: Rhetoric and Inquiry..... 3
UNIV1001
Transitioning to University Life..... 1
Total.....12

2nd Semester

BIOL1252
General Biology II.....3
BIOL1254
Laboratory: General Biology II.....1
CHEM1202
General Chemistry II..... 3
CHEM1204
General Chemistry Laboratory II.....1
ENWR1002
Composition II: Research and
Argument..... 3
UNIV1002
Preparing for Professional Life.....1
Mathematics Sequence*.....4
Total.....16

3rd Semester

BIOL2250, BIOL2150
Ecology and Field Biology
(Lecture and Laboratory)
or
MBIO1209, MBIO1219
Introduction to Marine Biology
(Lecture and Laboratory).....4
CHEM2261
Organic Chemistry I.....3
CHEM2263
Organic Chemistry Laboratory I..... 2

**In the freshman year, students are required to take either precalculus or calculus. The first-year course must be followed by a second mathematics course in sequence (i.e., Calculus I or Calculus II).*

Credits

Mathematics Sequence..... 4
Humanities Course*..... 3
Total.....16

4th Semester

BIOL2210, BIOL2211
Genetics (Lecture and Laboratory).....4
BIOL2300
Experimental Design.....3
CHEM2262
Organic Chemistry II.....3
CHEM2264
Organic Chemistry Laboratory II.....2
Humanities Course**.....3
Total.....15

5th Semester

BIOL2237, BIOL2239
Human Structure and Function I
(Lecture and Laboratory)..... 4
BIOL3225, BIOL3226
General Microbiology
(Lecture and Laboratory).....4
PHYS2201
Physics Laboratory I.....1
PHYS2203
University Physics I.....3
UNIV2001
Cross-cultural Perspectives.....3
Total.....15

6th Semester

CHEM3281
Biochemistry I.....3
PHYS2202
Physics Laboratory II.....1
PHYS2204
University Physics II.....3
Biology Elective.....3
Social and Behavioral Sciences
Elective***..... 5
Free Elective.....0–1
Total.....16

**Take 3 credits from ENGL (except developmental English), HIST, HUMN, LANG, PHIL or RELI courses. Or take ART1103 Principles of Art Appreciation, ART1107 Development of Art I, ART1108 Development of Art II, ART1120 Modern Art to Mid-century, ART1131 History of Graphic Design and Illustration, ART1133 History of Photography, ART1135 Cinema I: The Director's Vision, ART1136 Cinema II: Themes in Films, ART1137 History of Fashion Design, ART2137 Global Roots of American Architecture or ART2238 The Global Art World.*
***Take 3 credits from ENGL, HIST, HUMN, LANG, PHIL or RELI courses at the 2000-level or above.*
****Three credits of a Social and Behavioral Sciences Elective (any COMM, CRIM, POLS, PSYC or SOCI course)*

Combined Degree Programs

B.S. in Business Administration or Entrepreneurship or Finance or Management or Marketing/M.B.A. in Accounting or Business Administration or Entrepreneurship or Finance or Information Systems or International Business or Management or Marketing or Pharmaceutical Management
B.S. in Business Admin. or Entrepreneurship or Finance or Mgt. or Marketing/M.S. in Accounting or Supply Chain Mgt. or Taxation

7th Semester Credits

BIOL4855, BIOL4856
Molecular Biology Techniques
(Lecture and Laboratory).....3
BIOL4900
Biology Seminar I.....1
UNIV2002
Global Issues.....3
Biology Elective.....3
Graduate Biology Elective.....3
Free Elective.....3
Total.....16

8th Semester

BIOL4405
Ethics in Science.....3
BIOL4901
Biology Seminar II.....1
BIOL6240, BIOL6241
Molecular Cell Biology
(Lecture and Laboratory).....4
Oral Communication Elective.....3
Graduate Biology Elective.....3
Total.....14

9th Semester

Graduate Biology Electives.....12

10th Semester

Graduate Biology Electives.....10

Graduate Course Requirements

Students should consult with their advisers for course selections and new course offerings. Students may take any biology (BIOL) course at or above the 5000 level.

B.S./M.S. Requirements

One hundred forty-two (142) credits are required to earn both the B.S. and M.S. degrees. A minimum of 120 credits is required to earn the B.S. degree and a minimum of 22 additional credits for the M.S. degree.

B.S. in Business Administration or Entrepreneurship or Finance or Management or Marketing/ M.B.A. in Accounting or Business Administration or Entrepreneurship or Finance or Information Systems or International Business or Management or Marketing or Pharmaceutical Management

Fairleigh Dickinson University offers 45 combined degree programs: B.S. in business administration/M.B.A. in accounting or business administration or entrepreneurship or finance or information systems or international business or management or marketing or pharmaceutical management; B.S. in entrepreneurship/M.B.A. in accounting or business administration or entrepreneurship or finance or information systems or international business or management or marketing or pharmaceutical management; B.S. in finance/M.B.A. in accounting or business administration or entrepreneurship or finance or information systems or international business or management or marketing or pharmaceutical management; B.S. in management/M.B.A. in accounting or business administration or entrepreneurship or finance or information systems or international business or management or marketing or pharmaceutical management; and B.S. in marketing/ M.B.A. in accounting or business administration or entrepreneurship or finance or information systems or international business or management or marketing or pharmaceutical management. For information contact undergraduate programs and student services, Silberman College of Business, at 201-692-7206.

Admission requirements for the graduate portion of this program apply.

B.S. in Business Administration or Entrepreneurship or Finance or Management or Marketing/ M.S. in Accounting or Supply Chain Management or Taxation

Fairleigh Dickinson University offers 13 combined degree programs: B.S. in business administration/M.S. in accounting; B.S. in entrepreneurship/M.S. in accounting; B.S. in finance/M.S. in accounting or supply chain management or taxation; B.S. in management/M.S. in accounting or supply chain management or taxation; and B.S. in marketing/M.S. in accounting or supply chain management or taxation. For information contact undergraduate programs and student services, Silberman College of Business, at 201-692-7206.

Admission requirements for the graduate portion of this program apply.

Combined Degree Programs

Silberman College of Business Five-year (4+1) Programs

- B.S. in accounting/M.S. in accounting, M.B.A. in finance, M.B.A. in management or M.B.A. in marketing
- B.S. in business administration (with any concentration)/M.S. in accounting, M.B.A. in finance, M.B.A. in management or M.B.A. in marketing
- B.S. in finance/M.S. in accounting, M.B.A. in finance, M.B.A. in management or M.B.A. in marketing
- B.S. in management (leadership/human resources)/M.S. in accounting, M.B.A. in finance, M.B.A. in management or M.B.A. in marketing
- B.S. in marketing /M.S. in accounting, M.B.A. in finance, M.B.A. in management or M.B.A. in marketing

B.S. in Chemistry/M.S. in Chemistry with Pharmaceutical Chemistry Concentration

Five-year Program

The University offers a five-year program that allows qualified students to attain a Bachelor of Science degree in chemistry and a Master of Science degree in chemistry with a pharmaceutical chemistry concentration.

Florham Campus

Requirements for the Combined B.S. in Chemistry/M.S. in Chemistry with a Concentration in Pharmaceutical Chemistry

First Year (31 credits) Credits

BIOL1201, BIOL1203
Biological Diversity (Lecture and Laboratory).....4
BIOL1202, BIOL1204
Introduction to Molecules, Cells and Genes (Lecture and Laboratory).....4
CHEM1201, CHEM1202
General Chemistry I, II.....6
CHEM1203, CHEM1204
General Chemistry Laboratory I, II.....2
ENGW1001
College Writing Workshop.....3
ENGW1002
Research Writing Workshop.....3
MATH1203, MATH2202
Calculus I, II.....8
UNIV1001
Transitioning to College Life.....1

Second Year (29 credits)

CHEM2261, CHEM2262
Organic Chemistry I, II.....6
CHEM2263, CHEM2264
Organic Chemistry Laboratory I, II.....2
PHYS2003, PHYS2013;
PHYS2004, PHYS2014
General Physics with Calculus I, II (Lecture and Laboratory)..... 8
UNIV1002
Preparing for Professional Life..... 1
UNIV2001
Cross-cultural Perspectives..... 3
Humanities Elective..... 3
General Education Electives.....6

Third Year (37 credits) Credits

CHEM2211, CHEM2213
Inorganic Chemistry (Lecture and Laboratory)..... 4
CHEM2221, CHEM2223
Analytical Chemistry (Lecture and Laboratory)..... 4
CHEM3241, CHEM3242
Physical Chemistry I, II.....6
CHEM3243, CHEM3244
Physical Chemistry Laboratory I, II.....4
CHEM3281, CHEM3389
Biochemistry (Lecture and Laboratory).....4
MATH1133
Applied Statistics.....3
UNIV2002
Global Issues.....3
Foreign Language Courses.....6
General Education Elective.....3

Fourth Year (31 credits)

CHEM4215
Advanced Inorganic Chemistry.....3
CHEM4233, CHEM4234
Instrumental Analysis (Lecture and Laboratory)..... 5
CHEM4401
Chemistry Seminar.....1
CHEM6663
Introduction to Medicinal Chemistry.....3
CHEM6685
Pharmacology.....3
CHEM6781
Biochemistry.....3
CHEM7751
Chemical Kinetics.....3
Senior Research Elective.....1
Undergraduate Electives.....9

Fifth Year (24 credits)

CHEM6673
Physical Organic Chemistry.....3
CHEM6830–CHEM6833
Special Topics in Chemistry.....3
CHEM7735
Pharmaceutical Analysis.....3
CHEM7747
Protein Chemistry*..... 3
CHEM7751
Chemical Kinetics*..... 3
CHEM7753
Pharmacokinetics.....3
Undergraduate Electives.....6

**Graduate electives. May be substituted with graduate courses from other departments (not to exceed 6 credits) relevant to the degree. Permission of the department chair is required.*

Combined Degree Programs

B.S. in Chemistry/M.S. in Chemistry with Pharmaceutical Chemistry Concentration

Metropolitan Campus

Students applying to this program must have completed 62 credits and achieved a minimum grade point ratio of 3.00. Students must apply by the end of their junior year.

Recommended Course Sequence

1st Semester Credits

BIOL1251, BIOL1253
General Biology I (Lecture and Laboratory).....4
CHEM1201
General Chemistry I.....3
CHEM1203
General Chemistry Laboratory I.....1
ENWR1001
Composition I: Rhetoric and Inquiry.....3
MATH1201
Calculus I.....4
UNIV1001
Transitioning to University Life.....1
Total.....16

2nd Semester

BIOL1252, BIOL1254
General Biology II (Lecture and Laboratory).....4
CHEM1202
General Chemistry II.....3
CHEM1204
General Chemistry Laboratory II.....1
ENWR1002
Composition II: Research and Argument..... 3
MATH2202
Calculus II.....4
UNIV1002
Preparing for Professional Life.....1
Total.....16

3rd Semester

CHEM2261
Organic Chemistry I.....3
CHEM2263
Organic Chemistry Laboratory I.....2
PHYS2201
Physics Laboratory I.....1
PHYS2203
University Physics I.....3
UNIV2001
Cross-cultural Perspectives..... 3
Humanities Course*..... 3
Total.....15

**Take 3 credits from ENGL (except developmental English), HIST, HUMN, LANG, PHIL or RELI courses. Or take ART1103 Principles of Art Appreciation, ART1107 Development of Art I, ART1108 Development of Art II, ART1120 Modern Art to Mid-century, ART1131 History of Graphic Design and Illustration, ART1133 History of Photography, ART1135 Cinema I: The Director's Vision, ART1136 Cinema II: Themes in Films, ART1137 History of Fashion Design, ART2137 Global Roots of American Architecture or ART2238 The Global Art World.*

4th Semester Credits

CHEM2262
Organic Chemistry II.....3
CHEM2264
Organic Chemistry Laboratory II.....2
PHYS2202
Physics Laboratory II.....1
PHYS2204
University Physics II.....3
UNIV2002
Global Issues.....3
Humanities Course*..... 3
Total.....15

5th Semester

CHEM3241
Physical Chemistry I..... 3
CHEM3243
Physical Chemistry Laboratory I.....2
CHEM3281
Biochemistry I.....3
Advanced Mathematics Course**..... 3
Social and Behavioral Sciences Elective***..... 3
Total.....14

6th Semester

CHEM3242
Physical Chemistry II.....3
CHEM3244
Physical Chemistry Laboratory II.....2
Speech Course.....3
Science Elective.....3
Free Elective.....3
Total.....14

7th Semester

BIOL4405
Ethics in Science.....3
CHEM2211
Inorganic Chemistry I.....3
CHEM3231, CHEM3232
Analytical Chemistry (Lecture and Laboratory).....4
Pharmaceutical Chemistry Requirements....6
Total.....16

**Take 3 credits from ENGL, HIST, HUMN, LANG, PHIL or RELI courses at the 2000-level or above.*
***Selected from MATH2203 Calculus III or MATH2337 Applied Statistics I.*
****Three credits of a Social and Behavioral Sciences Elective (any COMM, CRIM, POLS, PSYC or SOCI course).*

8th Semester Credits

CHEM4233
Instrumental Analysis..... 3
CHEM4234
Instrumental Analysis Laboratory.....2
CHEM4314, CHEM3314
Inorganic Chemistry II (Lecture and Laboratory).....3
Pharmaceutical Chemistry Requirement.....3
Graduate Elective.....3
Total.....14

9th Semester

Pharmaceutical Chemistry Requirements 6
Pharmaceutical Chemistry Elective.....3
Graduate Elective.....3
Total.....12

10th Semester

Pharmaceutical Chemistry Requirement.....3
Pharmaceutical Chemistry Elective.....3
Graduate Electives.....6
Total.....12

Graduate Course Requirements

Students should consult with their advisers for course selections and new course offerings.

Required Courses (18 credits)

CHEM6673
Physical Organic Chemistry.....3
CHEM6754
Drug-delivery Systems..... 3
CHEM6755
Medicinal Chemistry.....3
CHEM6781
Biochemistry.....3
CHEM7737
Chemical Analysis of Pharmaceuticals... 3
Graduate COMM Course (6000 level)..... 3

Pharmaceutical Chemistry Electives (6 credits)

MATH6737
Applied Statistics I..... 3
Any 5000- or higher-level BIOL, CHEM, COMM, COSC, MGMT, MKTG or PHYS course.....3

B.S. in Chemistry/M.S. in Cosmetic Science Five-year Program

The University offers a five-year program that allows qualified students to attain a Bachelor of Science degree in chemistry and a Master of Science in cosmetic science.

Students applying to this program must have completed 62 credits and achieved a minimum grade point ratio of 3.00. Students must apply by the end of their junior year.

Undergraduate students who have successfully completed the required two-semester sequence in organic chemistry and who have an overall grade point ratio of more than 3.00 may apply to one of the combined B.S./M.S. programs described below.

Undergraduate Courses

1st Semester	Credits
BIOL1251, BIOL1253 General Biology I (Lecture and Laboratory)	4
CHEM1201 General Chemistry I	3
CHEM1203 General Chemistry Laboratory I	1
ENWR1001 Composition I: Rhetoric and Inquiry	3
MATH1201 Calculus I	4
UNIV1001 Transitioning to University Life	1
Total	16

2nd Semester	Credits
BIOL1252, BIOL1254 General Biology II (Lecture and Laboratory)	4
CHEM1202 General Chemistry II	3
CHEM1204 General Chemistry Laboratory II	1
ENWR1002 Composition II: Research and Argument	3
MATH2202 Calculus II	4
UNIV1002 Preparing for Professional Life	1
Total	16

3rd Semester	Credits
CHEM2261 Organic Chemistry I	3
CHEM2263 Organic Chemistry Laboratory I	2
PHYS2201 Physics Laboratory I	1
PHYS2203 University Physics I	3
UNIV2001 Cross-cultural Perspectives	3
Humanities Course*	3
Total	15

4th Semester	
CHEM2262 Organic Chemistry II	3
CHEM2264 Organic Chemistry Laboratory II	2
PHYS2202 Physics Laboratory II	1
PHYS2204 University Physics II	3
UNIV2002 Global Issues	3
Humanities Course**	3
Total	15

5th Semester	
CHEM3241 Physical Chemistry I	3
CHEM3243 Physical Chemistry Laboratory I	2
CHEM3281 Biochemistry I	3
Advanced Mathematics Course***	3
Social and Behavioral Sciences Elective****	3
Total	14

6th Semester	Credits
CHEM3242 Physical Chemistry II	3
CHEM3244 Physical Chemistry Laboratory II	2
Speech Course	3
Cosmetic Science Elective	3
Free Elective	3
Total	14

7th Semester	
BIOL4405 Ethics in Science	3
CHEM2211 Inorganic Chemistry I	3
CHEM3231, CHEM3232 Analytical Chemistry (Lecture and Laboratory)	4
Cosmetic Science Requirement	3
Free Elective	3
Total	16

8th Semester	
CHEM4233 Instrumental Analysis	3
CHEM4234 Instrumental Analysis Laboratory	2
CHEM4314, CHEM3314 Inorganic Chemistry II (Lecture and Laboratory)	3
Cosmetic Science Requirement	3
Cosmetic Science Elective	3
Total	14

9th Semester	
Cosmetic Science Requirements	6
Graduate Requirements	6
Total	12

10th Semester	
COSC6548 Cosmetic Science Laboratory	2
Cosmetic Science Requirements	6
Graduate Requirement	3
Total	11

**Take 3 credits from ENGL (except developmental English), HIST, HUMN, LANG, PHIL or RELI courses. Or take ART1103 Principles of Art Appreciation, ART1107 Development of Art I, ART1108 Development of Art II, ART1120 Modern Art to Mid-century, ART1131 History of Graphic Design and Illustration, ART1133 History of Photography, ART1135 Cinema I: The Director's Vision, ART1136 Cinema II: Themes in Films, ART1137 History of Fashion Design, ART2137 Global Roots of American Architecture or ART2238 The Global Art World.*

***Take 3 credits from ENGL, HIST, HUMN, LANG, PHIL or RELI courses at the 2000-level or above.*

****Selected from MATH2203 Calculus III or MATH2337 Applied Statistics I.*

*****Three credits of a Social and Behavioral Sciences Elective (any COMM, CRIM, POLS, PSYC or SOCI course).*

Combined Degree Programs

B.S. in Computer Science/M.S. in Computer Science

Graduate Course Requirements

Students should consult with their advisers for course selections and new course offerings.

Required Courses (20 credits)

BIOL6756
Dermal Pharmacology and Immunology..... 3
CHEM6526
Product Development..... 3
CHEM6529
Microtoxicology and Biochemistry.....3

Credits

COSC6543
Hair-care Raw Materials and Formulations.....3
COSC6547
Skin-care Raw Materials and Formulations.....3
COSC6548
Cosmetic Science Laboratory..... 2
PHYS6753
Applied Colloid and Surface Science.....3

Cosmetic Science Electives (3 credits)

CHEM6546
Perfumery.....3
CHEM6773
Polymer Chemistry.....3
CHEM6781
Biochemistry.....3
COSC6542
Claims Substantiation.....3
COSC6549
Color Cosmetics.....3

A minimum of 120 credits is required for the B.S. degree, and a minimum of an additional 23 credits for the M.S. degree.

B.S. in Computer Science/ M.S. in Computer Science Five-year Program

The University offers a five-year program that allows qualified students to attain a Bachelor of Science degree in computer science and a Master of Science degree in computer science with a combined course load of 141 credits, which is 9 credits less than that of the separate degrees.

Students are eligible to apply for the combined program after completing 60 undergraduate credits and obtaining a grade point ratio (GPR) of 3.00 or better in the first 15 credits of computer science courses. Applications should be submitted before the student has completed 27 credits of computer science courses. Upon completion of their undergraduate degrees, students who have maintained a 3.00 GPR in their computer science courses will be admitted to the graduate computer science program.

B.S./M.S. in Computer Science 120+21=141 credits

Computer Science Undergraduate Core Requirements (36 credits) Credits

CSCI1201
Computer Programming I.....3
CSCI1202
Computer Programming II.....3
CSCI2215
Introduction to Computer Science.....3
CSCI2232
Data Structures.....3
CSCI2247
Assembly Language Programming.....3
CSCI3240
Computer Networks.....3
CSCI3251
Design of Software Systems.....3
CSCI3255
Mathematical Foundations of Computer Science.....3
CSCI6603
Computer Architecture*.....3
CSCI6623
Database Systems*..... 3
CSCI6638
Operating Systems*.....3
ENGR2286
Digital System Design.....3

Science Requirements (16 credits)

Credits

Science A I with Lab.....4
Science A II with Lab.....4
Science B I with Lab.....4
Science B II with Lab.....4

Mathematics Requirements (17 credits)

MATH1201
Calculus I.....4
MATH2202
Calculus II.....4
MATH2255
Discrete Structures.....3
MATH3220
Linear Algebra..... 3
MATH3237
Probability and Statistics I..... 3

Humanities Requirements (15 credits)

ENGR2210
Technical Communications.....3
ENGR3000
Modern Technologies: Principles, Applications and Impacts..... 3
ENWR1001
Composition I: Rhetoric and Inquiry..... 3
ENWR1002
Composition II: Research and Argument.....3
Humanities Elective.....3

University Requirements (8 credits)

UNIV1001
Transitioning to University Life.....1
UNIV1002
Preparing for Professional Life.....1
UNIV2001
Cross-cultural Perspectives.....3
UNIV2002
Global Issues..... 3

Students must complete any two of the following concentrations: cybersecurity and information assurance, game and mobile application development, database management and information security administration.

Each concentration requires the successful completion of six courses (18 credits), of which three courses (9 credits) are already included in the computer science core requirements. The remaining three courses (9 credits) of each concentration are prescribed in the B.S. in computer science curriculum (see pages 155–156).

**These courses can be applied to the M.S. degree, provided that the student earns a grade of B or better.*

Below, the courses for any two concentrations, e.g. concentration A and concentration B, are designated as concentrations A I, A II and A III, and concentrations B I, B II and B III.

Concentration Requirements (18 credits)

	Credits
Concentration A I	3
Concentration A II	3
Concentration A III	3
Concentration B I	3
Concentration B II	3
Concentration B III	3

Free Electives (10 credits)

Total....120

Computer Science Graduate Requirements (21 credits)

Students will receive graduate credit for each of the graduate courses CSCI6603 Computer Architecture, CSCI6623 Database Systems and CSCI6638 Operating Systems in which they have received a grade of B or better.

In addition, students will take two more core courses:

CSCI6620
Software Engineering....3
CSCI7645
Systems Programming....3
and
Computer Science Electives....15

The total combined degree is 141 credits (provided the student earns grades of B or better in the three graduate course taken as an undergraduate).

B.S. in Computer Science/ M.S. in Management Information Systems Five-year Program

The University offers a five-year program that allows qualified students to attain a Bachelor of Science degree in computer science and a Master of Science degree in management information systems (MIS) with a combined course load of 141 credits, which is 9 credits less than that of the separate degrees.

Students are eligible to apply for the combined program after completing 60 undergraduate credits and obtaining a grade point ratio (GPR) of 3.00 or better in the first 15 credits of computer science courses. Applications should be submitted before the student has completed 27 credits of computer science courses. Upon completion of their undergraduate degrees, students who have maintained a 3.00 GPR in their computer science courses will be admitted to the graduate MIS program.

B.S. in Computer Science/M.S. in Management Information Systems 120+21=141 credits

Computer Science Undergraduate Core Requirements (36 credits)

	Credits
CSCI1201 Computer Programming I	3
CSCI1202 Computer Programming II	3
CSCI2215 Introduction to Computer Science	3
CSCI2232 Data Structures	3
CSCI2247 Assembly Language Programming	3
CSCI3240 Computer Networks	3
CSCI3251 Design of Software Systems	3
CSCI3255 Mathematical Foundations of Computer Science	3
CSCI6603 Computer Architecture*	3
CSCI6623 Database Systems*	3
CSCI6638 Operating Systems*	3
ENGR2286 Digital System Design	3

**These courses can be applied to the M.S. degree, provided that the student earns a grade of B or better.*

Science Requirements (16 credits)

	Credits
Science A I with Lab	4
Science A II with Lab	4
Science B I with Lab	4
Science B II with Lab	4

Mathematics Requirements (17 credits)

MATH1201
Calculus I....4
MATH2202
Calculus II....4
MATH2255
Discrete Structures....3
MATH3220
Linear Algebra....3
MATH3237
Probability and Statistics I....3

Humanities Requirements (15 credits)

ENGR2210
Technical Communications....3
ENGR3000
Modern Technologies: Principles, Applications and Impacts....3
ENWR1001
Composition I: Rhetoric and Inquiry....3
ENWR1002
Composition II: Research and Argument....3
Humanities Elective....3

University Requirements (8 credits)

UNIV1001
Transitioning to University Life....1
UNIV1002
Preparing for Professional Life....1
UNIV2001
Cross-cultural Perspectives....3
UNIV2002
Global Issues....3

Business Requirements (6 credits)

ACCT5012
Financial Accounting: End-user Applications....2
ECON5012
Economic Analysis....2
MKTG5012
Marketing Principles....2

Students must complete any two of the following concentrations: cybersecurity and information assurance, game and mobile application development, database management and information security administration.

Combined Degree Programs

B.S.E.E./M.S. in Computer Engineering

Each concentration requires the successful completion of six courses (18 credits), of which three courses (9 credits) are already included in the computer science core requirements. The remaining three courses (9 credits) of each concentration are prescribed in the B.S. in computer science curriculum (see pages 155–156).

Below, the courses for any two concentrations, e.g. concentration A and concentration B, are designated as concentrations A I, A II and A III, and concentrations B I, B II and B III.

Concentration Requirements (18 credits)

	Credits
Concentration A I	3
Concentration A II	3
Concentration A III	3
Concentration B I	3
Concentration B II	3
Concentration B III	3

Free Electives (4 credits)

Total....120

Management Information Systems Graduate Requirements (21 credits)

Students will receive graduate credit for each of the graduate courses CSCI6603 Computer Architecture, CSCI6623 Database Systems and CSCI6638 Operating Systems in which they have received a grade of B or better. In addition, they will take five additional core courses:

CSCI6720
Management Information Systems..... 3
CSCI6758
Electronic Commerce.....3
CSCI7727
Development of MIS I: Project Management and Systems Analysis.....3
CSCI7791
Information Systems for Competitive Advantage.....3
Graduate Electives.....9

The total combined degree is 141 credits (provided the student earns grades of B or better in the three graduate course taken as an undergraduate).

B.S.E.E./M.S. in Computer Engineering
Five-year Program

Fairleigh Dickinson University offers a five-year program that allows qualified students to attain a Bachelor of Science in Electrical Engineering (B.S.E.E.) and a Master of Science (M.S.) degree in computer engineering with a combined degree load that is 9 credits less than that for the separate degrees.

Students must register for this program by their junior year and must have achieved a 2.75 cumulative grade point ratio.

A minimum of 128 credits is required for the B.S.E.E. degree and a minimum of 149 credits is required for the combined B.S.E.E./M.S. in computer engineering degrees.

Requirements

First Year

1st Semester Credits

ENGR1301
Engineering Practices, Graphics and Design.....3
ENWR1001
Composition I: Rhetoric and Inquiry.... 3
MATH1201
Calculus I.....4
PHYS2201
Physics Laboratory I..... 1
PHYS2203
University Physics I.....3
UNIV1001
Transitioning to University Life.....1
Total.....15

2nd Semester

ENGR1204
Programming Languages in Engineering.....3
ENGR2286
Digital System Design.....3
ENWR1002
Composition II: Research and Argument..... 3
MATH2202
Calculus II.....4
PHYS2202
Physics Laboratory II.....1
PHYS2204
University Physics II.....3
UNIV1002
Preparing for Professional Life.....1
Total.....18

Second Year

3rd Semester Credits

EENG2221
Signals and Systems I.....4
EENG2287
Microprocessor System Design I.....3
ENGR3200
Advanced Engineering Programming.....3
MATH2210
Differential Equations..... 3
UNIV2001
Cross-cultural Perspectives.....3
Total.....16

4th Semester

EENG2222
Signals and Systems II.....3
EENG3288
Microprocessor System Design II..... 3
ENGR2210
Technical Communications.....3
ENGR4221
Engineering Statistics and Reliability.....3
UNIV2002
Global Issues.....3
Total.....15

Third Year

5th Semester

EENG3223
Linear Systems.....3
EENG3265
Electronics I.....3
EENG4375
Electrical Energy Conversion.....3
ENGR2221
Statics.....3
MATH2203
Calculus III.....3
Total.....15

6th Semester

CHEM1201
General Chemistry I.....3
CHEM1203
General Chemistry Laboratory I..... 1
EENG3224
Digital Signal Processing.....3
EENG3266
Electronics II.....3
ENGR3000
Modern Technologies: Principles, Applications and Impacts..... 3
ENGR3341
Advanced Engineering Mathematics.....3
Total.....16

Fourth Year

7th Semester Credits

EENG3244
Electromagnetic Fields and Waves.....3
EENG3267
Electronics III.....3
EENG4260
Preparation for Electrical Engineering Project.....1
EENG4342
Data Communications and Computer Networks.....3
EENG7725
Automatic Control Systems I.....3
ENGR4210
Managerial and Engineering Economic Analysis..... 3
Total.....16

8th Semester

CSCI2232
Data Structures..... 3
CSCI6603
Computer Architecture.....3
EENG4268
Electrical Engineering Project.....2
EENG4341
Communication Systems.....3
EENG4347
Wireless Communication.....3
EENG7701
Logic System Design..... 3
Total.....17

Fifth Year

9th Semester

CSCI6620
Software Engineering..... 3
EENG7709
Embedded Systems.....3
CSCI Graduate Elective..... 3
EENG Graduate Elective.....3
Total.....12

10th Semester

CSCI Graduate Elective..... 3
EENG or CSCI Graduate Electives.....6
Total.....9
Total Degree Requirements..... 149

For full details, consult an adviser and/or the *Graduate Studies Bulletin*.

B.S.E.E./M.S.E.E. Five-year Program

Fairleigh Dickinson University offers a five-year program that allows qualified students to attain a Bachelor of Science in Electrical Engineering (B.S.E.E.) degree and a Master of Science in Electrical Engineering (M.S.E.E.) degree with a combined degree load that is 9 credits less than that of the separate degrees.

Students must register for this program by their junior year and must have achieved at least a 2.75 cumulative grade point ratio.

A minimum of 128 credits is required for the B.S.E.E. degree and a minimum of 149 credits is required for the combined B.S.E.E./M.S.E.E. degrees.

Requirements

First Year

1st Semester Credits

ENGR1301
Engineering Practices, Graphics and Design.....3
ENWR1001
Composition I: Rhetoric and Inquiry.....3
MATH1201
Calculus I.....4
PHYS2201
Physics Laboratory I.....1
PHYS2203
University Physics I.....3
UNIV1001
Transitioning to University Life.....1
Total..... 15

2nd Semester

ENGR1204
Programming Languages in Engineering.....3
ENGR2286
Digital System Design.....3
ENWR1002
Composition II: Research and Argument..... 3
MATH2202
Calculus II.....4
PHYS2202
Physics Laboratory II.....1
PHYS2204
University Physics II.....3
UNIV1002
Preparing for Professional Life.....1
Total.....18

Second Year

3rd Semester Credits

EENG2221
Signals and Systems I.....4
EENG2287
Microprocessor System Design I..... 3
ENGR3200
Advanced Engineering Programming.....3
MATH2210
Differential Equations.....3
UNIV2001
Cross-cultural Perspectives.....3
Total.....16

4th Semester

EENG2222
Signals and Systems II.....3
EENG3288
Microprocessor System Design II.....3
ENGR2210
Technical Communications.....3
ENGR4221
Engineering Statistics and Reliability.....3
UNIV2002
Global Issues.....3
Total.....15

Third Year

5th Semester

EENG3223
Linear Systems.....3
EENG3265
Electronics I.....3
EENG4375
Electrical Energy Conversion.....3
ENGR2221
Statics.....3
MATH2203
Calculus III.....3
Total.....15

6th Semester

CHEM1201
General Chemistry I.....3
CHEM1203
General Chemistry Laboratory I..... 1
EENG3266
Electronics II.....3
ENGR3000
Modern Technologies: Principles, Applications and Impacts.....3
ENGR3341
Advanced Engineering Mathematics.....3
Technical Elective*.....3
Total..... 16

**Six credits must be selected from the technical electives list for the engineering curriculum, copies of which can be obtained through the Lee Gildart and Oswald Haase School of Computer Sciences and Engineering. Choices must be approved by an academic adviser.*

Combined Degree Programs

B.S. in Hotel and Restaurant Management/M.S. in Hospitality Management Studies

Fourth Year

7th Semester Credits

EENG3244
Electromagnetic Fields and Waves.....3
EENG3267
Electronics III.....3
EENG4260
Preparation for Electrical Engineering Project..... 1
EENG4342
Data Communications and Computer Networks.....3
EENG6633
Digital Signal Processing.....3
EENG7725
Automatic Control Systems I.....3
Total..... 16

8th Semester

EENG4268
Electrical Engineering Project.....2
EENG4341
Communication Systems.....3
EENG4347
Wireless Communication.....3
EENG7701
Logic System Design..... 3
ENGR4210
Managerial and Engineering Economic Analysis..... 3
Technical Elective*.....3
Total..... 17

9th Semester

EENG6747
Digital Communications.....3
EENG7709
Embedded Systems.....3
EENG Graduate Electives.....6
Total.....12

10th Semester

EENG Graduate Elective.....3
EENG or CSCI Graduate Electives.....6
Total.....9
Total Degree Requirements..... 149

For full details, consult an adviser and/or the *Graduate Studies Bulletin.*

**Six credits must be selected from the technical electives list for the engineering curriculum, copies of which can be obtained through the Lee Gildart and Oswald Haase School of Computer Sciences and Engineering. Choices must be approved by an academic adviser.*

B.S. in Hotel and Restaurant Management/M.S. in Hospitality Management Studies

Five-year Program

Recommended Course Sequencing

1st Semester Credits

ENGL1111
Literature and Composition I
or
ENWR1001
Composition I: Rhetoric and Inquiry..... 3
HRTM1101
Career Orientation and Professional Development..... 1
HRTM2500
Professional Development Sequence (PDS) Lab..... 0
DSCI1234
Mathematics for Business Decisions
or
MATH1141
Introduction to Mathematical Methods.....3
MIS1045
Information Technology for Business
or
MIS1135
Introduction to Computers..... 3
PSYC1103
General Psychology
or
PSYC1141
Psychology I.....3
UNIV1000
Transitioning to University Life..... 1
Foreign Language Requirement*..... 3
Total.....17

2nd Semester

ACCT1131
Accounting I
or
ACCT2021
Introductory Financial Accounting.....3

**A student may satisfy this liberal arts requirement (foreign language) in one of four ways: 1) Recommend 6 credits of the same foreign language; 2) Language and culture courses: each course listed in the Undergraduate Studies Bulletin as "Language and Cultural Studies" will fulfill three credits toward this requirement; 3) English for Professional Success: International students can fulfill this requirement by the successful completion of the English for Professional Success (EPS) requirement; 4) Study abroad: Students can fulfill this requirement by taking six credits of an immersion course in any language followed by a University-approved intercultural travel experience.*

Credits

ENGL1112
Literature and Composition II
or
ENWR1002
Composition II: Research and Argument.....3
HRTM1100
Professional Development Sequence (PDS) Work Experience 1.....1
HRTM1102
Professional Skill Development..... 1
HRTM2500
Professional Development Sequence (PDS) Lab.....0
POLS1102
Geography and World Issues..... 3
UNIV1002
Preparing for Professional Life..... 1
Foreign Language Requirement*..... 3
Free Elective**..... 3
Total.....18

3rd Semester

COMM2101
Professional Communication..... 3
ECON1121
Macroeconomics.....3
HRTM2103
Management Values and Professional Standards.....2
HRTM2211
Accounting for Hospitality Managers..... 3
HRTM2500
Professional Development Sequence (PDS) Lab..... 0
DSCI2029
Introduction to Statistics
or
MATH1142
Introduction to Statistics.....3
UNIV2001
Cross-cultural Perspectives..... 3
Total.....17

**A student may satisfy this liberal arts requirement (foreign language) in one of four ways: 1) Recommend 6 credits of the same foreign language; 2) Language and culture courses: each course listed in the Undergraduate Studies Bulletin as "Language and Cultural Studies" will fulfill three credits toward this requirement; 3) English for Professional Success: International students can fulfill this requirement by the successful completion of the English for Professional Success (EPS) requirement; 4) Study abroad: Students can fulfill this requirement by taking six credits of an immersion course in any language followed by a University-approved intercultural travel experience.*

***Adviser-approved courses offered by Anthony J. Petrocelli College of Continuing Studies, Silberman College of Business and University College: Arts • Sciences • Professional Studies.*

4th Semester Credits

HRTM2100
Professional Development Sequence (PDS) Work Experience 2.....1
HRTM2104
The Hospitality Manager and Law.....2
HRTM2211
Accounting for Hospitality Managers.... 3
HRTM2235
Sustainability and Ecotourism.....3
HRTM2500
Professional Development Sequence (PDS) Lab.....0
HRTM3208
Financial Management in the Hospitality Industry..... 3
SPCH1155
Public Speaking.....3
UNIV2002
Global Issues.....3
Total.....18

5th Semester

HRTM2210
Sales and Marketing for Hospitality Managers.....3
HRTM2500
Professional Development Sequence (PDS) Lab..... 0
HRTM3105
Managerial Challenges in the Workplace.....1
HRTM3108
Nutrition, Sanitation and Food Safety....3
HRTM3203
Food and Beverage Management.....3
HRTM3209
Human Resource Managmeent.....3
Laboratory Science Elective.....3
Total.....16

6th Semester

HRTM2500
Professional Development Sequence (PDS) Lab..... 0
HRTM3100
Professional Development Sequence (PDS) Work Experience 3.....1
HRTM3106
The Manager and the Group: Work Experience..... 1
HRTM3207
Lodging Operations and Revenue Management.....3
HRTM4280
Domestic and International Tourism.....3
HRTM7710
Current Concepts in Leadership..... 3
HRTM7751
Research Methodology I..... 3

Credits

MIS2001
Management Information Systems.....3
Total.....17

7th Semester

HRTM2500
Professional Development Sequence (PDS) Lab..... 0
HRTM4107
Concepts in Transportation and Travel.....2
HRTM4204
Property Management.....3
HRTM7734
Global Marketing for Hospitality Executives..... 3
Graduate Elective..... 3
Free Elective*.....1
Total..... 12

8th Semester

HRTM2500
Professional Development Sequence (PDS) Lab.....0
HRTM4108
Global Issues in Hospitality Management (seminar abroad).....2
HRTM4109
Hospitality Operations Tactics and Strategy.....3
HRTM7708
Organizational Communication and Conflict Management.....3
HRTM7714
Advanced Human Resource Management..... 3
Free Elective.....3
Total.....14

9th Semester

HRTM7713
Financial Management.....3
HRTM7716
Service Management..... 3
HRTM
Graduate Elective..... 3
Total.....9

10th Semester

HRTM7715
Special Project.....0
HRTM7738
Advanced Graduate Practicum.....3
HRTM7752
Research Methodology II.....3
Total.....6

**Adviser-approved courses offered by Anthony J. Petrocelli College of Continuing Studies, Silberman College of Business and University College: Arts • Sciences • Professional Studies.*

B.S. in Information Technology/M.S. in Computer Science

Five-year Program

Fairleigh Dickinson University offers a five-year program that allows qualified students to attain a Bachelor of Science (B.S.) degree in information technology and a Master of Science (M.S.) degree in computer science with a combined degree load that is 9 credits less than that for the separate degrees.

Students must register for this program by their junior year and must have achieved a cumulative grade point ratio of at least 3.00.

A minimum of 123 credits is required for the B.S. in information technology degree, and a minimum of 144 credits is required for the combined B.S. in information technology/M.S. in computer science degrees.

Requirements

First Year

1st Semester Credits

CSCI1105
Survey of Computers and Computer Software.....3
ENWR1001
Composition I: Rhetoric and Inquiry..... 3
INFO1101
Computer Concepts and Technology..... 3
MATH1105
College Algebra.....4
UNIV1001
Transitioning to University Life.....1
Total.....14

2nd Semester

ART1177
Introduction to Digital Media.....3
ENWR1002
Composition II: Research and Argument..... 3
INFO1201
Information Technology.....3
MATH1107
Precalculus.....4
UNIV1002
Preparing for Professional Life.....1
Total.....14

Combined Degree Programs

B.S. in Biochemistry/Doctor of Pharmacy

Second Year

3rd Semester Credits

EGTG2210
Technical Communications....3
INFO2101
Computer Programming for Information Technologists I....3
INFO2105
Internet and Web Applications....3
UNIV2001
Cross-cultural Perspectives....3
Laboratory Science Elective....4
Total....16

4th Semester

ENGR2286
Digital System Design....3
INFO2102
Computer Programming for Information Technologists II....3
INFO2106
Website Design and Management....3
UNIV2002
Global Issues....3
Laboratory Science Elective....4
Total....16

Third Year

5th Semester

CSCI2232
Data Structures....3
CSCI2247
Assembly Language Programming
or
EENG2287
Microprocessor System Design I....3
ENGR3000
Modern Technologies: Principles, Applications and Impacts....3
MATH2337
Applied Statistics I....3
Information Technology Elective....3
Total....15

6th Semester

CSCI6623
Database Systems....3
CSCI6638
Operating Systems....3
INFO3201
Human Computer Interface....3
INFO3205
Digital Media Publishing....3
Information Technology Elective....3
Total....15

Fourth Year

7th Semester Credits

CSCI6603
Computer Architecture....3
ENGR4210
Managerial and Engineering Economic Analysis....3
INFO4101
Data Communications and Computer Networks I....3
INFO4201
Information Technology Needs Assessment and Management....3
MATH2255
Discrete Structures....3
Information Technology Elective....3
Total....18

8th Semester

CSCI3274
Linux System Administration....3
INFO4205
Information Technology Capstone Project....3
INFO4410
Foundations of Cybersecurity....3
INFO4844
Programming for the Internet....3
Information Technology Elective....3
Total....15

Fifth Year

9th Semester

CSCI6620
Software Engineering....3
Graduate Computer Science Electives....9
Total....12

10th Semester

CSCI7645
Systems Programming....3
Graduate Computer Science Electives....6
Total....9
Total Degree Requirements....144

For full details consult an adviser and/or the *Graduate Studies Bulletin*.

B.S. in Biochemistry/Doctor of Pharmacy Seven-year Program

(with FDU School of Pharmacy and Health Sciences, Fairleigh Dickinson University)

Fairleigh Dickinson University sophomores and high school seniors can apply to the the B.S. in biochemistry plus Pharm.D. combined program (3+4) offered by the School of Pharmacy and Health Sciences.

Sophomore applicants studying biochemistry (minimum of 30 credits, maximum of 60 credits) and maintaining a 3.30 grade point ratio must also have a grade of B- or better in all prerequisite college courses. The program is even more competitive for high school students seeking admission: students must have an SAT score of 1150 or higher (on the 1600 scale) and a 3.50 grade point average.

The program is structured so that students complete three years of undergraduate work in a "feeder" science major through the Maxwell Becton College of Arts and Sciences or University College: Arts • Sciences • Professional Studies before transitioning to the School of Pharmacy and Health Sciences to begin four years of graduate work. They ultimately achieve both a Bachelor of Science and Doctor of Pharmacy.

Metropolitan Campus

A minimum of 120 credits for the B.S. degree; 100–104 of these are taken at the Metropolitan Campus in years 1–3 + 28 credits (to be approved by the department chair/director) in year 4 at FDU's School of Pharmacy and Health Sciences. Students not accepted into FDU's School of Pharmacy and Health Sciences have the option of switching out of the B.S. in biochemistry/Pharm.D. combined degree and into another concentration.

B.S. in Biochemistry and Doctor of Pharmacy Combined Degree

1st Semester Credits

BIOL1251
General Biology I....3
BIOL1253
Laboratory: General Biology I....1
CHEM1201
General Chemistry I....3
CHEM1203
General Chemistry Laboratory I....1

Combined Degree Programs

B.S. in Biochemistry/Doctor of Pharmacy

	Credits
ENWR1001 Composition I: Rhetoric and Inquiry	3
MATH1201 Calculus I	4
UNIV1001 Transitioning to University Life	1
Total	16

2nd Semester

	Credits
BIOL1252 General Biology II	3
BIOL1254 Laboratory: General Biology II	1
CHEM1202 General Chemistry II	3
CHEM1204 General Chemistry Laboratory II	1
ENWR1002 Composition II: Research and Argument	3
MATH2202 Calculus II	4
UNIV1002 Preparing for Professional Life	1
Total	16

3rd Semester

	Credits
BIOL4405 Ethics in Science	3
CHEM2261 Organic Chemistry I	3
CHEM2263 Organic Chemistry Laboratory I	2
PHYS2201 Physics Laboratory I	1
PHYS2203 University Physics I	3
UNIV2001 Cross-cultural Perspectives	3
Humanities Course*	3
Total	18

**Take 3 credits from ENGL (except developmental English), HIST, HUMN, LANG, PHIL or RELI courses. Or take ART1103 Principles of Art Appreciation, ART1107 Development of Art I, ART1108 Development of Art II, ART1120 Modern Art to Mid-century, ART1131 History of Graphic Design and Illustration, ART1133 History of Photography, ART1135 Cinema I: The Director's Vision, ART1136 Cinema II: Themes in Films, ART1137 History of Fashion Design, ART2137 Global Roots of American Architecture or ART2238 The Global Art World.*

4th Semester

	Credits
CHEM2262 Organic Chemistry II	3
CHEM2264 Organic Chemistry Laboratory II	2
PHYS2202 Physics Laboratory II	1
PHYS2204 University Physics II	3
SPCH Oral Communication Elective*	3
UNIV2002 Global Issues	3
Humanities Course**	3
Total	18

5th Semester

	Credits
BIOL2203, BIOL2223 Human Anatomy and Physiology I (Lecture and Laboratory)	4
BIOL2210, BIOL2211 Genetics (Lecture and Laboratory)	4
CHEM3241, CHEM3243 Physical Chemistry I (Lecture and Laboratory)	
or	
CHEM4233, CHEM4234 Instrumental Analysis (Lecture and Laboratory)	5
CHEM3281 Biochemistry I	3
Total	16

6th Semester

	Credits
BIOL2204, BIOL2224 Human Anatomy and Physiology II (Lecture and Laboratory)	4
BIOL6733 Enzymology	3
CHEM3231, CHEM3232 Analytical Chemistry (Lecture and Laboratory)	4
BIOL4901 Biology Seminar II	1
or	
CHEM3242, CHEM3244 Physical Chemistry II (Lecture and Laboratory)	5
MATH2337 Applied Statistics I	3
Total	15

**Requirements consist of a three-credit Speech course.*
***Take 3 credits from ENGL, HIST, HUMN, LANG, PHIL or RELI courses at the 2000-level or above.*

7th Semester

	Credits
PHRM6100 Foundations in Pharmaceutical Science: Pharmacology, Medicinal Chemistry, Pharmacokinetics	4
PHRM6101 Foundations in Integrated Pharmacotherapy I: An Introduction to Pathophysiology, Genetics, Microbiology and Delivery of Care	3
PHRM6201 Pharmaceutics I: Physical Pharmacy	3
PHRM6211 Pharmaceutical Calculations I	1
PHRM6301 Medical Communication and Technical Writing	2
PHRM6321 Pharmacy Practice Law	2
PHRM6401 Professional Pharmacy Practice I: Health Care Delivery	3
PHRM6700 Beyond the Curriculum: Foundations in Pharmacy Education (1)	0
Total	18

8th Semester

	Credits
PHRM6102 Integrated Pharmacotherapy II: Gastrointestinal	3
PHRM6103 Integrated Pharmacotherapy III: Dermatology, Over-the-Counter Remedies and Self Care	3
PHRM6104 Integrated Pharmacotherapy IV: Cardiology/Pulmonary I	3
PHRM6111 Integrated Pharmacotherapy II–IV: Conceptual Connections and Patient Care	2
PHRM6202 Pharmaceutics II – Oral Dosage Forms and Biopharmaceutics/ Pharmacokinetics	2
PHRM6402 Professional Pharmacy Practice II: Communication in Health Care	2
PHRM6701 Beyond the Curriculum: Foundations in Pharmacy Education (2)	1
Total	17

Combined Degree Programs

B.S. in Biochemistry/Doctor of Pharmacy

School of Pharmacy and Health Sciences Courses for All Undergraduate Majors Years 5 through 7

	Credits
PHRM6501 Introductory Pharmacy Practice Experience (IPPE) I: Community	4
PHRM7105 Integrated Pharmacotherapy V: Neurology, Psychiatry and Anesthesiology	4
PHRM7106 Integrated Pharmacotherapy VI: Infectious Disease	4
PHRM7107 Integrated Pharmacotherapy VII: Cardiology/Pulmonary II	4
PHRM7108 Integrated Pharmacotherapy VIII: Endocrine, Urinary Tract, Renal and Reproductive Health	4
PHRM7111 Integrated Pharmacotherapy V–VI: Conceptual Connections and Patient Care	2
PHRM7112 Integrated Pharmacotherapy VII–VIII: Conceptual Connections and Patient Care	2
PHRM7201 Pharmaceutics III: Dosage Forms and Drug Delivery Systems	2
PHRM7202 Pharmaceutics IV: Sterile Products and Biopharmaceuticals	2
PHRM7301 Biostatistics	2
PHRM7302 Epidemiology and Study Design Evaluation	3
PHRM7401 Professional Pharmacy Practice III: Drug Information, Informatics and Toxicology	2
PHRM7501 Introductory Pharmacy Practice Experience (IPPE) II: Institutional	4
PHRM7700 Beyond the Curriculum: Expanding Horizons (1)	0
PHRM7701 Beyond the Curriculum: Expanding Horizons (2)	1
PHRM8109 Integrated Pharmacotherapy IX: Autoimmune Diseases, Rare Diseases and Special Populations	3
PHRM8110 Integrated Pharmacotherapy X: Hematology and Oncology	3
PHRM8111 Integrated Pharmacotherapy IX–X: Conceptual Connections and Patient Care	2
PHRM8112 Integrated Pharmacotherapy I–X: A Whole System Overview and Effecting Patient Care	2
PHRM8201 Pharmacogenomics and Personalized Medicine	2
PHRM8301 Pharmacoepidemiology, Pharmacoeconomics and Health Outcomes	3
PHRM8302 Public Health and the Global Mission of Pharmacy	2
PHRM8321 Health Care Ethics and Team Decision Making	1
PHRM8402 Professional Pharmacy Practice IV: Pharmacy Leadership and Management	2
PHRM8700 Beyond the Curriculum/ Preparing Practitioners (1)	0
PHRM8701 Beyond the Curriculum/ Preparing Practitioners (2)	1
PHRM9101 Advanced Pharmacy Practice Experience (APPE) I: Community	5
PHRM9102 Advanced Pharmacy Practice Experience (APPE) II: Institutional	5
PHRM9103 Advanced Pharmacy Practice Experience (APPE) III: Ambulatory Care	5
PHRM9104 Advanced Pharmacy Practice Experience (APPE) IV: Acute Care	5
PHRM9201 Advanced Pharmacy Practice Experience (APPE) V: Elective – Community Practice I	5
PHRM9203 Advanced Pharmacy Practice Experience (APPE) V: Elective – Ambulatory Care I	5
PHRM9205 Advanced Pharmacy Practice Experience (APPE) V: Elective – Community Compounding I	5
PHRM9207 Advanced Pharmacy Practice Experience (APPE) V: Elective – Medication Therapy Management I	5
PHRM9209 Advanced Pharmacy Practice Experience (APPE) V: Elective – HIV/AIDS I	5
PHRM9211 Advanced Pharmacy Practice Experience (APPE) V: Elective – Home Infusion I	5
PHRM9301 Advanced Pharmacy Practice Experience (APPE) VI: Elective – Hospital Practice I	5
PHRM9303 Advanced Pharmacy Practice Experience (APPE) VI: Elective – Acute Care I	5
PHRM9305 Advanced Pharmacy Practice Experience (APPE) VI: Elective – Long Term Care I	5
PHRM9307 Advanced Pharmacy Practice Experience (APPE) VI: Elective – Infectious Disease I	5
PHRM9309 Advanced Pharmacy Practice Experience (APPE) VI: Elective – Oncology I	5
PHRM9311 Advanced Pharmacy Practice Experience (APPE) VI: Elective – Critical Care I	5
PHRM9313 Advanced Pharmacy Practice Experience (APPE) VI: Elective – Cardiology I	5
PHRM9315 Advanced Pharmacy Practice Experience (APPE) VI: Elective – Behavioral Health I	5
PHRM9401 Advanced Pharmacy Practice Experience (APPE) VII: Elective – Drug Information I	5
PHRM9403 Advanced Pharmacy Practice Experience (APPE) VII: Elective – Medication Safety I	5
PHRM9405 Advanced Pharmacy Practice Experience (APPE) VII: Elective – Managed Care I	5

Credits

PHRM9407
Advanced Pharmacy Practice Experience (APPE) VII: Elective – Specialty Pharmacy I.....5
PHRM9409
Advanced Pharmacy Practice Experience (APPE) VII: Elective – Medical Device/Patient Safety I.....5
PHRM9501
Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Public Health I.....5
PHRM9503
Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Industry I.....5
PHRM9505
Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Research I.....5
PHRM9507
Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Marketing I.....5
PHRM9509
Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Patient Advocacy I.....5
PHRM9511
Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Health Care Organization Management I.....5
PHRM9513
Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Informatics I.....5
PHRM9515
Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Management I.....5
PHRM9517
Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Regulatory I.....5
PHRM9900
Pharmacy Capstone I.....1
PHRM9901
Pharmacy Capstone II.....2

Florham Campus

*B.S. in Biochemistry and Doctor of Pharmacy Combined Degree**

1st Semester Credits

BIOL1201, BIOL1211
Biological Diversity.....4
BIOL1203
Lab: Biological Diversity.....0
CHEM1201, CHEM1211
General Chemistry I.....3
CHEM1203
General Chemistry Laboratory I.....1
ENGW1101
College Writing Workshop.....3
MATH1203
Calculus I.....4
UNIV1001
Transitioning to College Life.....1
Total.....16

2nd Semester

BIOL1202, BIOL1212
Introduction to Molecules, Cells and Genes.....4
BIOL1204
Introduction to Molecules, Cells and Genes Lab.....0
CHEM1202, CHEM1212
General Chemistry II.....3
CHEM1204
General Chemistry Laboratory II.....1
ENGW1102
Research Writing Workshop.....3
MATH2202
Calculus II.....4
Total.....15

3rd Semester

BIOL1205
Anatomy and Physiology I.....4
BIOL1207
Lab: Anatomy and Physiology I.....0
CHEM2261, CHEM2265
Organic Chemistry I.....3
CHEM2263
Organic Chemistry Laboratory I.....1
PHYS2003, PHYS2023
General Physics with Calculus I.....4
PHYS2013
Lab: General Physics with Calculus I.....0
SPCH1107
Fundamentals of Speech.....3
Total.....15

4th Semester Credits

BIOL1206
Anatomy and Physiology II.....4
BIOL1208
Lab: Anatomy and Physiology II.....0
CHEM2262, CHEM2266
Organic Chemistry II.....3
CHEM2264
Organic Chemistry Laboratory II.....1
MATH1133
Applied Statistics.....3
PHYS2004, PHYS2024
General Physics with Calculus II.....4
PHYS2014
Lab: General Physics with Calculus II....0
Total.....15

5th Semester

CHEM3241, CHEM3245
Physical Chemistry I.....3
CHEM3243
Physical Chemistry Laboratory I.....2
CHEM3281
Biochemistry I.....3
CHEM3389
Biochemistry Laboratory.....1
UNIV1002
Preparing for Professional Life.....1
Language Course.....4
Total.....14

6th Semester

CHEM2221
Analytical Chemistry.....4
CHEM2223
Lab: Analytical Chemistry.....0
CHEM3242, CHEM3246
Physical Chemistry II.....3
CHEM3244
Physical Chemistry Laboratory II.....2
CHEM3282
Biochemistry II.....3
ECON2001
Introduction to Microeconomics.....3
Textual and Aesthetic Analysis.....3
Total.....18

7th Semester

PHRM6100
Foundations in Pharmaceutical Science: Pharmacology, Medicinal Chemistry, Pharmacokinetics.....4
PHRM6101
Foundations in Integrated Pharmacotherapy I: An Introduction to Pathophysiology, Genetics, Microbiology and Delivery of Care.....3

**This is not American Chemical Society (ACS) certified.*

Combined Degree Programs

B.S. in Biochemistry/Doctor of Pharmacy

	Credits
PHRM6201 Pharmaceutics I: Physical Pharmacy	3
PHRM6211 Pharmaceutical Calculations I	1
PHRM6301 Medical Communication and Technical Writing	2
PHRM6321 Pharmacy Practice Law	2
PHRM6401 Professional Pharmacy Practice I: Health Care Delivery	3
PHRM6700 Beyond the Curriculum: Foundations in Pharmacy Education (1)	0
Total	18

8th Semester

	Credits
PHRM6102 Integrated Pharmacotherapy II: Gastrointestinal	3
PHRM6103 Integrated Pharmacotherapy III: Dermatology, Over-the-Counter Remedies and Self Care	3
PHRM6104 Integrated Pharmacotherapy IV: Cardiology/Pulmonary I	3
PHRM6111 Integrated Pharmacotherapy II–IV: Conceptual Connections and Patient Care	2
PHRM6202 Pharmaceutics II – Oral Dosage Forms and Biopharmaceutics/ Pharmacokinetics	2
PHRM6212 Pharmaceutical Calculations II	1
PHRM6402 Professional Pharmacy Practice II: Communication in Health Care	2
PHRM6701 Beyond the Curriculum: Foundations in Pharmacy Education (2)	1
Total	17

School of Pharmacy and Health Sciences Courses for All Undergraduate Majors
Years 5 through 7

	Credits
PHRM6501 Introductory Pharmacy Practice Experience (IPPE) I: Community	4
PHRM7105 Integrated Pharmacotherapy V: Neurology, Psychiatry and Anesthesiology	4
PHRM7106 Integrated Pharmacotherapy VI: Infectious Disease	4
PHRM7107 Integrated Pharmacotherapy VII: Cardiology/Pulmonary II	4
PHRM7108 Integrated Pharmacotherapy VIII: Endocrine, Urinary Tract, Renal and Reproductive Health	4
PHRM7111 Integrated Pharmacotherapy V–VI: Conceptual Connections and Patient Care	2
PHRM7112 Integrated Pharmacotherapy VII–VIII: Conceptual Connections and Patient Care	2
PHRM7201 Pharmaceutics III: Dosage Forms and Drug Delivery Systems	2
PHRM7202 Pharmaceutics IV: Sterile Products and Biopharmaceuticals	2
PHRM7301 Biostatistics	2
PHRM7302 Epidemiology and Study Design Evaluation	3
PHRM7401 Professional Pharmacy Practice III: Drug Information, Informatics and Toxicology	2
PHRM7501 Introductory Pharmacy Practice Experience (IPPE) II: Institutional	4
PHRM7700 Beyond the Curriculum: Expanding Horizons (1)	0
PHRM7701 Beyond the Curriculum: Expanding Horizons (2)	1
PHRM8109 Integrated Pharmacotherapy IX: Autoimmune Diseases, Rare Diseases and Special Populations	3
PHRM8110 Integrated Pharmacotherapy X: Hematology and Oncology	3
PHRM8111 Integrated Pharmacotherapy IX–X: Conceptual Connections and Patient Care	2
PHRM8112 Integrated Pharmacotherapy I–X: A Whole System Overview and Effecting Patient Care	2
PHRM8201 Pharmacogenomics and Personalized Medicine	2
PHRM8301 Pharmacoepidemiology, Pharmacoeconomics and Health Outcomes	3
PHRM8302 Public Health and the Global Mission of Pharmacy	2
PHRM8321 Health Care Ethics and Team Decision Making	1
PHRM8402 Professional Pharmacy Practice IV: Pharmacy Leadership and Management	2
PHRM8700 Beyond the Curriculum/ Preparing Practitioners (1)	0
PHRM8701 Beyond the Curriculum/ Preparing Practitioners (2)	1
PHRM9101 Advanced Pharmacy Practice Experience (APPE) I: Community	5
PHRM9102 Advanced Pharmacy Practice Experience (APPE) II: Institutional	5
PHRM9103 Advanced Pharmacy Practice Experience (APPE) III: Ambulatory Care	5
PHRM9104 Advanced Pharmacy Practice Experience (APPE) IV: Acute Care	5
PHRM9201 Advanced Pharmacy Practice Experience (APPE) V: Elective – Community Practice I	5
PHRM9203 Advanced Pharmacy Practice Experience (APPE) V: Elective – Ambulatory Care I	5
PHRM9205 Advanced Pharmacy Practice Experience (APPE) V: Elective – Community Compounding I	5
PHRM9207 Advanced Pharmacy Practice Experience (APPE) V: Elective – Medication Therapy Management I	5

	Credits
PHRM9209 Advanced Pharmacy Practice Experience (APPE) V: Elective – HIV/AIDS I	5
PHRM9211 Advanced Pharmacy Practice Experience (APPE) V: Elective – Home Infusion I	5
PHRM9301 Advanced Pharmacy Practice Experience (APPE) VI: Elective – Hospital Practice I	5
PHRM9303 Advanced Pharmacy Practice Experience (APPE) VI: Elective – Acute Care I	5
PHRM9305 Advanced Pharmacy Practice Experience (APPE) VI: Elective – Long Term Care I	5
PHRM9307 Advanced Pharmacy Practice Experience (APPE) VI: Elective – Infectious Disease I	5
PHRM9309 Advanced Pharmacy Practice Experience (APPE) VI: Elective – Oncology I	5
PHRM9311 Advanced Pharmacy Practice Experience (APPE) VI: Elective – Critical Care I	5
PHRM9313 Advanced Pharmacy Practice Experience (APPE) VI: Elective – Cardiology I	5
PHRM9315 Advanced Pharmacy Practice Experience (APPE) VI: Elective – Behavioral Health I	5
PHRM9401 Advanced Pharmacy Practice Experience (APPE) VII: Elective – Drug Information I	5
PHRM9403 Advanced Pharmacy Practice Experience (APPE) VII: Elective – Medication Safety I	5
PHRM9405 Advanced Pharmacy Practice Experience (APPE) VII: Elective – Managed Care I	5
PHRM9407 Advanced Pharmacy Practice Experience (APPE) VII: Elective – Specialty Pharmacy I	5
PHRM9409 Advanced Pharmacy Practice Experience (APPE) VII: Elective – Medical Device/Patient Safety I	5
PHRM9501 Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Public Health I	5
PHRM9503 Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Industry I	5
PHRM9505 Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Research I	5
PHRM9507 Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Marketing I	5
PHRM9509 Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Patient Advocacy I	5
PHRM9511 Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Health Care Organization Management I	5
PHRM9513 Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Informatics I	5
PHRM9515 Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Management I	5
PHRM9517 Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Regulatory I	5
PHRM9900 Pharmacy Capstone I	1
PHRM9901 Pharmacy Capstone II	2

B.S. in Biology/Doctor of Chiropractic

Six-year, Four-month Program

This accelerated, combined degree program enables students to earn both baccalaureate and Doctor of Chiropractic degrees in just six years and four months — a full year less than the normal study time of seven years and four months. Students can choose to attend undergraduate classes on either of Fairleigh Dickinson University's New Jersey campuses.

The bachelor's degree is awarded by the University and the Doctor of Chiropractic degree is awarded by a participating Council on Chiropractic Education (CCE)-accredited Colleges of Chiropractic. To date, the University has affiliations with New York Chiropractic College, Seneca Falls, N.Y.; Life Chiropractic College West, Hayward, Calif.; Logan University, Chesterfield, Mo.; Palmer College of Chiropractic, Davenport, Iowa; and University of Western States, Portland, Ore.

Students are admitted into FDU's combined degree program as incoming freshmen or qualified transfer students. The B.S. degree is awarded after the students completes six semesters (three years) at FDU (including the courses listed on the next pages or their approved equivalent), completes the first two trimesters of study at a participating chiropractic college with grades of C or better and is accepted into the third trimester. Up to 32 credits accepted in transfer toward completion of B.S. degree requirements will be selected from appropriate graduate-level courses offered by a participating chiropractic college.

Specific Course Requirements

Metropolitan Campus

Under the provisions of the prechiropractic program on the Metropolitan Campus, Teaneck, New Jersey, students matriculate in the School of Natural Sciences, University College: Arts • Sciences • Professional Studies for a minimum of 99 credits of course work leading to the B.S. in biology (preprofessional degree option), including the following courses:

Liberal Arts and Humanities Requirements	Credits
CSCI1105 Survey of Computers and Computer Software	3
ENGL2201 Masterpieces of World Literature I	3

Combined Degree Programs

B.S. in Biology/Doctor of Chiropractic

Credits

ENGL2202
Masterpieces of World Literature II.....3
ENWR1001
Composition I: Rhetoric and Inquiry..... 3
ENWR1002
Composition II: Research and Argument..... 3
UNIV1001
Transitioning to University Life.....1
UNIV1002
Preparing for Professional Life.....1
UNIV2001
Cross-cultural Perspectives.....3
UNIV2002
Global Issues..... 3
Fine Arts Elective.....2
Humanities Electives.....6
Total.....36

Recommended Course Sequence

1st Semester

BIOL1251
General Biology I.....3
BIOL1253
Laboratory: General Biology I.....1
CHEM1201
General Chemistry I.....3
CHEM1203
General Chemistry Laboratory I.....1
ENWR1001
Composition I: Rhetoric and Inquiry..... 3
UNIV1001
Transitioning to University Life.....1
Total.....12

2nd Semester

BIOL1252
General Biology II.....3
BIOL1254
Laboratory: General Biology II.....1
CHEM1202
General Chemistry II.....3
CHEM1204
General Chemistry Laboratory II.....1
ENWR1002
Composition II: Research and Argument..... 3
UNIV1002
Preparing for Professional Life..... 1
Mathematics Sequence..... 4
Total.....16

3rd Semester

BIOL2150, BIOL2250
Ecology and Field Biology (Lecture and Laboratory)
or
MBIO1209, MBIO1219
Introduction to Marine Biology (Lecture and Laboratory)..... 4
CHEM2261
Organic Chemistry I..... 3

Credits

CHEM2263
Organic Chemistry Laboratory I.....2
Mathematics Sequence..... 4
Humanities Course*.....3
Total.....16

4th Semester

BIOL2210, BIOL2211
Genetics (Lecture and Laboratory).....4
BIOL2300
Experimental Design.....3
CHEM2262
Organic Chemistry II.....3
CHEM2264
Organic Chemistry Laboratory II.....2
UNIV2002
Global Issues.....3
Humanities Course**..... 3
Total.....18

5th Semester

BIOL2237, BIOL2239
Human Structure and Function (Lecture and Laboratory)..... 4
BIOL3225, BIOL3226
General Microbiology (Lecture and Laboratory)..... 4
BIOL4900
Biology Seminar I..... 1
PHYS2201
Physics Laboratory I..... 1
PHYS2203
University Physics I.....3
UNIV2001
Cross-cultural Perspectives.....3
Total.....16

6th Semester

BIOL4240, BIOL4241
Molecular Cell Biology (Lecture and Laboratory).....4
BIOL4405
Ethics in Science.....3
CHEM3281
Biochemistry I.....3
PHYS2202
Physics Laboratory II.....1
PHYS2204
University Physics II.....3
Oral Communication Elective..... 3
Total.....17

**Take 3 credits from ENGL (except developmental English), HIST, HUMN, LANG, PHIL or RELI courses. Or take ART1103 Principles of Art Appreciation, ART1107 Development of Art I, ART1108 Development of Art II, ART1120 Modern Art to Mid-century, ART1131 History of Graphic Design and Illustration, ART1133 History of Photography, ART1135 Cinema I: The Director's Vision, ART1136 Cinema II: Themes in Films, ART1137 History of Fashion Design, ART2137 Global Roots of American Architecture or ART2238 The Global Art World.*
***Take 3 credits from ENGL, HIST, HUMN, LANG, PHIL or RELI courses at the 2000-level or above.*

Florham Campus

Under the provisions of the prechiropractic program at the Florham Campus, Madison, New Jersey, students matriculate in the department of biological and allied health sciences, Maxwell Becton College of Arts and Sciences, for a minimum of 97 credits of course work leading to the B.S. in biology (preprofessional degree option), including the following courses:

Biology Requirements Credits

BIOL1201, BIOL1203
Biological Diversity (Lecture and Laboratory)..... 4
BIOL1202, BIOL1204
Introduction to Molecules, Cells and Genes (Lecture and Laboratory).....4
BIOL2003, BIOL2004
Cell Biology (Lecture and Laboratory)...4
BIOL3253, BIOL3254
Comparative Anatomy (Lecture and Laboratory)..... 4
BIOL3256, BIOL3257
Genetics (Lecture and Laboratory).....4
BIOL3337, BIOL3327
General Physiology (Lecture and Laboratory)..... 4

Cognate Requirements (Chemistry, Mathematics, Physics)

CHEM1201, CHEM1202
General Chemistry I, II.....6
CHEM1203, CHEM1204
General Chemistry Laboratory I, II.....2
CHEM2261, CHEM2262
Organic Chemistry I, II.....6
CHEM2263, CHEM2264
Organic Chemistry Laboratory I, II.....2
MATH1107
Precalculus.....4
MATH1203
Calculus I.....4

Students must complete the general education course plan (see pages 54–55) as well, including these specific classes:

PHIL1440
Biomedical Ethics.....3
SPCH1107
Fundamentals of Speech
or
COMM2099
Professional Communications.....3

B.S. in Biochemistry or Biology or Chemistry/Doctor of Dental Medicine

Eight-year Program

(with Lake Erie College of Osteopathic Medicine, School of Dental Medicine)

Lake Erie College of Osteopathic Medicine, School of Dental Medicine offers the D.M.D. degree through a full-time, four-year pathway at its campus in Bradenton, Fla. The curriculum consists of two years of basic science and preclinical instruction delivered through case-based, small-group problem-based learning sessions, as well as lectures, laboratories and introductory clinical experiences. Years three and four offer primarily hands-on, clinical experiences (http://lecom.edu/school-dental-medicine).

These combined degree programs provide qualified students the opportunity to complete a baccalaureate degree and a Doctor of Dental Medicine (D.M.D.) degree in eight years. The bachelor's degree (B.S. in biology/biochemistry/chemistry) is awarded by Fairleigh Dickinson University and the doctoral degree (D.M.D.) by Lake Erie College of Osteopathic Medicine (LECOM) – School of Dental Medicine. Through these Early Acceptance Programs, FDU undergraduate students are enrolled jointly by Fairleigh Dickinson University and by LECOM. Once recommended by Fairleigh Dickinson University, LECOM will interview the students prior to their enrollment at Fairleigh Dickinson University or within the first two years of being properly enrolled in the program. Students interviewing successfully will be offered a provisional acceptance to LECOM's Doctor of Dental Medicine program.

The "4+4" track is comprised of two phases. Phase I consists of four years of undergraduate education at Fairleigh Dickinson University and completion of the B.S. in biochemistry, biology or chemistry degree. Phase II consists of four years of dental school education at LECOM and its associated clinical training sites. Upon meeting the criteria for final acceptance, students will matriculate at the LECOM Bradenton, Fla., campus.

Each academic year, a maximum combined total of five students will be accepted by LECOM into Phase II of the Early Acceptance Program from each campus of Fairleigh Dickinson University. Provisionally accepted students may not apply to any other medical school. Application to another medical school will result in the loss of the student's provisional acceptance.

Admission to the Combined Degree Programs

High school seniors with a combined SAT score of 1170 (ACT score of 26) and a grade point average (GPA) of 3.50 or better may apply for admission to the combined degree programs. All applicants for admission to the combined degree programs must satisfy secondary-school preparation in English, mathematics, biology, chemistry and physics. The high school GPA and rank in class, along with letters of recommendation from high school teachers, will be of primary importance in evaluating the applicant's credentials. Applicants are required to submit scores in the verbal and the mathematical components of SAT.

Combined Degree Program Requirements

While enrolled at FDU, students are required to follow the preprofessional curriculum in one of the sciences (biology, biochemistry or chemistry). They are expected to maintain a minimum cumulative grade point ratio of 3.00 or higher in all course work and in science courses.

Qualifying for Enrollment at LECOM School of Dental Medicine

Qualified students enrolled in the combined degree programs will be accepted into Phase II if they meet the following criteria:

- Completion of all FDU curriculum requirements, including including the general education requirements and the degree program requirements for the major and all prerequisite courses required for admission to LECOM School of Dental Medicine. Students need to maintain a cumulative grade point ratio (CGPR) of 3.40 or higher in prerequisite courses with no grade lower than C in any of them and a cumulative overall science GPR of 3.20;
- A GPR of 3.40 or higher;
- An academic index score my be factored into admission decision.
- No reduced course load will be accepted. No summer courses will be accepted except in the case of scheduling conflicts;
- Submission of a satisfactory Dental Admission Test (DAT) score (established by LECOM at the time of entry into the Early Acceptance Program) in a timely fashion; and
- Full-time students currently enrolled at FDU who seek admission to the combined degree programs must apply to the School of Natural Sciences, University College: Arts • Sciences • Professional Studies, Metropolitan Campus, Teaneck, N.J., or to the department of biological and allied health sciences, Florham Campus, Madison, N.J., prior to February 1 of their sophomore year.

Predental Curricula

Students enrolled in the 4+4 years Early Acceptance Program will follow FDU's curricula for B.S. in sciences (for biochemistry, see pages 66 and 141; for biology, see pages 68 and 142; or for chemistry, see pages 69 and 146).

Under the provisions of the predental combined program, students matriculate in either University College: Arts • Sciences • Professional Studies or Maxwell Becton College of Arts and Sciences for a minimum of 96 credits of course work leading to the B.S. in one of the sciences (biochemistry, biology, chemistry).

Combined Degree Programs

B.S. in Biology/Doctor of Pharmacy

B.S. in Biology/Doctor of Dental Medicine
Seven-year Program

(with Rutgers School of Dental Medicine)

Students accepted into this program will spend their first three years at FDU. The following four years will be spent at the Rutgers School of Dental Medicine (RSDM). Following successful completion of the first year of study at RSDM the student will be awarded a B.S. degree by FDU.

Admission to the Program

Qualified students who have completed their first three semesters of study achieving a 3.50 cumulative grade point ratio at FDU may apply. Applicants must have had secondary school preparation in English, mathematics, biology, chemistry and physics. Letters of recommendation from high school teachers also are required.

Following evaluation of applications by the admissions office, the Joint Admissions Committee will decide which applicants to interview at FDU and RSDM. The interview at RSDM will be conducted by a member of the RSDM Admissions Committee. The final decision will be made by the Joint Admissions Committee following a review of the interviewers' comments.

Final Admission to RSDM

Final admission into the Rutgers School of Dental Medicine is dependent on satisfactory completion of the following:

1. 98 credits as listed on this page and page 253 at University College: Arts • Sciences • Professional Studies or 98 credits as listed on this page at the Maxwell Becton College of Arts and Sciences.

2. A minimum grade point ratio of 3.50 and a minimum grade of B in each of the science courses required for admission to RSDM. There shall be no final grade of "D", "F" or "I" in any course required for admission to RSDM, appearing on the student's transcript.

3. A satisfactory score on the Dental Aptitude Test must be submitted prior to admission to RSDM.

4. A recommendation by four faculty members, including the chair of the department of biological and allied health sciences at the Florham Campus, Madison, New Jersey, or the director of the School of Natural Sciences at the Metropolitan Campus, Teaneck, New Jersey, and the preprofessional adviser is required. FDU students wishing to participate in the program must apply in writing to the preprofessional adviser no later than completion of 60 credits at FDU.

5. Participation in any orientation programs required by RSDM.

6. Final entrance into the D.M.D. program is contingent on satisfactory performance in all six semesters at FDU, not withstanding any prior offer of admission.

7. Further information can be obtained from the Advisement Office for Graduate and Professional Studies at the Florham Campus, Madison, New Jersey, or the Graduate School and Professional Studies Advisement Center at the Metropolitan Campus, Teaneck, New Jersey.

Specific Course Requirements

The course requirements to be followed at Maxwell Becton College of Arts and Sciences at the Florham Campus, Madison, New Jersey, or University College: Arts • Sciences • Professional Studies at the Metropolitan Campus, Teaneck, New Jersey, are found on this and the following page.

Florham Campus

Biology Requirements Credits

BIOL1201, BIOL1203
Biological Diversity (Lecture and Laboratory)..... 4

BIOL1202, BIOL1204
Introduction to Molecules, Cells and Genes (Lecture and Laboratory).....4

BIOL2003, BIOL2004
Cell Biology (Lecture and Laboratory)...4

BIOL3253, BIOL3254
Comparative Anatomy (Lecture and Laboratory)..... 4

BIOL3256, BIOL3257
Genetics (Lecture and Laboratory).....4

BIOL3337, BIOL3327
General Physiology (Lecture and Laboratory)..... 4

Cognate Requirements (Chemistry, Mathematics, Physics)

CHEM1201, CHEM1202
General Chemistry I, II.....6

CHEM1203, CHEM1204
General Chemistry Laboratory I, II.....2

Credits

CHEM2261, CHEM2262
Organic Chemistry I, II.....6

CHEM2263, CHEM2264
Organic Chemistry Laboratory I, II.....2

CHEM3281, CHEM3389
Biochemistry I (Lecture and Laboratory).....4

MATH1107
Precalculus.....4

MATH1133
Applied Statistics.....3

MATH1203
Calculus I.....4

Students must complete the general education course plan (see pages 54–55) as well, including these specific classes:

PHIL1440
Biomedical Ethics.....3

SPCH1107
Fundamentals of Speech
or
COMM2099
Professional Communications.....3

Metropolitan Campus

1st Semester

BIOL1251, BIOL1253
General Biology I (Lecture and Laboratory)..... 4

CHEM1201
General Chemistry I.....3

CHEM1203
General Chemistry Laboratory I.....1

ENWR1001
Composition I: Rhetoric and Inquiry.....3

UNIV1001
Transitioning to University Life.....1

Total.....12

2nd Semester

BIOL1252, BIOL1254
General Biology II (Lecture and Laboratory).....4

CHEM1202
General Chemistry II.....3

CHEM1204
General Chemistry Laboratory II.....1

ENWR1002
Composition II: Research and Argument.....3

UNIV1002
Preparing for Professional Life.....1

Mathematics Sequence.....4

Total.....16

3rd Semester Credits

BIOL2250, BIOL2150
Ecology and Field Biology (Lecture and Laboratory)..... 4
CHEM2261
Organic Chemistry I.....3
CHEM2263
Organic Chemistry Laboratory I.....2
Mathematics Sequence..... 4
Humanities Course*.....3
Total.....16

4th Semester

BIOL2210, BIOL2211
Genetics (Lecture and Laboratory).....4
BIOL2300
Experimental Design.....3
CHEM2262
Organic Chemistry II.....3
CHEM2264
Organic Chemistry Laboratory II.....2
UNIV2002
Global Issues.....3
Humanities Course**..... 3
Total.....18

5th Semester

BIOL2237, BIOL2239
Human Structure and Function (Lecture and Laboratory)..... 4
BIOL3225, BIOL3226
General Microbiology (Lecture and Laboratory)..... 4
BIOL4900
Biology Seminar I..... 1
PHYS2201
Physics Laboratory I.....1
PHYS2203
University Physics I.....3
UNIV2001
Cross-cultural Perspectives.....3
Total.....16

6th Semester Credits

BIOL4240, BIOL4241
Molecular Cell Biology (Lecture and Laboratory).....4
BIOL4405
Ethics in Science.....3
CHEM3281
Biochemistry I.....3
PHYS2202
Physics Laboratory II.....1
PHYS2204
University Physics II.....3
Oral Communication Elective..... 3
Total.....17

Consult pages 143–144 for additional details about the requirements for the B.S. in biology at the Metropolitan Campus, Teaneck, New Jersey.

**Take 3 credits from ENGL (except developmental English), HIST, HUMN, LANG, PHIL or RELI courses. Or take ART1103 Principles of Art Appreciation, ART1107 Development of Art I, ART1108 Development of Art II, ART1120 Modern Art to Mid-century, ART1131 History of Graphic Design and Illustration, ART1133 History of Photography, ART1135 Cinema I: The Director's Vision, ART1136 Cinema II: Themes in Films, ART1137 History of Fashion Design, ART2137 Global Roots of American Architecture or ART2238 The Global Art World.*
***Take 3 credits from ENGL, HIST, HUMN, LANG, PHIL or RELI courses at the 2000-level or above.*

B.S. in Biology/Medical Doctor

Eight-year Program

(with Ross University School of Medicine, Portsmouth, Dominica, West Indies)

This accelerated, combined degree program provides qualified students the opportunity to complete a baccalaureate degree (B.S. in biology) and a Medical Doctor (M.D.) degree in eight years. The bachelor's degree is awarded by Fairleigh Dickinson University and the doctoral degree (M.D.) by Ross University. English is the teaching language.

Students are admitted to FDU as incoming freshmen or qualified transfer students. They may apply for the Bachelor of Science degree upon successful completion of six semesters at FDU, including the courses listed below, and the first year of study (three semesters) at Ross University. A maximum of 32 credits from Ross University may be transferred toward completion of the B.S. degree at FDU.

Admission to the Combined Degree Program

High school seniors with a combined SAT score of 1150 or higher and ranking in the top 25 percent of their class or qualified students who have completed their first year of college study with a 3.40 cumulative grade point ratio or higher may apply for admission to the combined degree program. Applicants must have had secondary-school preparation in English, mathematics, biology, chemistry and physics. Letters of recommendation from high school teachers also are required.

The high school grade point average (GPA) and rank in class, along with letters of recommendation from high school teachers, will be of primary importance in evaluating applicants' credentials. Applicants are required to submit scores in the verbal and mathematical components of the SAT.

After preliminary screening of the applications by the FDU Office of Admissions, qualified applicants will be invited for an interview with the FDU/Ross University Joint Admissions Committee.

Combined Degree Program Requirements

While enrolled at FDU, students are required to follow the accelerated preprofessional curriculum in biology and are

Combined Degree Programs

B.S. in Biology/Medical Doctor

expected to maintain a minimum cumulative grade point ratio of 3.25 or higher in all course work and a minimum of 3.00 in prerequisite courses required by Ross University.

Qualifying for Enrollment at Ross University

To qualify, students must meet the following criteria:

• Completion of all FDU curriculum requirements, including the general education requirements and the degree program requirements for the major and all prerequisite courses required for admission at Ross University. Students need to maintain a grade point ratio (GPR) of 3.00 or higher in prerequisite courses with no D or F in any of the courses;

• A GPR of 3.25 or higher;

• Submission of a satisfactory MCAT score (24 or higher) in a timely fashion;

• Students currently enrolled at FDU who seek admission to the combined degree program must apply to the School of Natural Sciences, University College: Arts • Sciences • Professional Studies, Metropolitan Campus, Teaneck, N.J., or to the department of biological and allied health sciences, Maxwell Becton College of Arts and Sciences, Florham Campus, Madison, N.J., prior to the completion of 60 credit hours at FDU or at least one year before the anticipated date of matriculation at Ross University; and

• Students enrolled in the combined degree program who decide to complete the B.S. degree at FDU prior to entering Ross University must make this known to their school director or department chair prior to the completion of 60 credits at FDU or at least one year before the anticipated date of matriculation at Ross University.

Premedical Curricula

Under the provisions of the premedical program, students matriculate in either University College: Arts • Sciences • Professional Studies, Metropolitan Campus, or Maxwell Becton College of Arts and Sciences, Florham Campus, for a minimum of 96 credits (University College) 97 credits (Becton College) of course work leading to the B.S. in biology (preprofessional option). The curriculum is as follows:

Metropolitan Campus

1st Semester	Credits
BIOL1251 General Biology I	3
BIOL1253 Laboratory: General Biology I	1
CHEM1201 General Chemistry I	3
CHEM1203 General Chemistry Laboratory I	1
ENWR1001 Composition I: Rhetoric and Inquiry	3
UNIV1001 Transitioning to University Life	1
Total	12

2nd Semester	Credits
BIOL1252 General Biology II	3
BIOL1254 Laboratory: General Biology II	1
CHEM1202 General Chemistry II	3
CHEM1204 General Chemistry Laboratory II	1
ENWR1002 Composition II: Research and Argument	3
UNIV1002 Preparing for Professional Life	1
Mathematics Sequence	4
Total	16

3rd Semester	Credits
BIOL2150, BIOL2250 Ecology and Field Biology (Lecture and Laboratory) or MBIO1209, MBIO1219 Introduction to Marine Biology (Lecture and Laboratory)	4
CHEM2261 Organic Chemistry I	3
CHEM2263 Organic Chemistry Laboratory I	2
Mathematics Sequence	4
Humanities Course*	3
Total	16

**Take 3 credits from ENGL (except developmental English), HIST, HUMN, LANG, PHIL or RELI courses. Or take ART1103 Principles of Art Appreciation, ART1107 Development of Art I, ART1108 Development of Art II, ART1120 Modern Art to Mid-century, ART1131 History of Graphic Design and Illustration, ART1133 History of Photography, ART1135 Cinema I: The Director's Vision, ART1136 Cinema II: Themes in Films, ART1137 History of Fashion Design, ART2137 Global Roots of American Architecture or ART2238 The Global Art World.*

4th Semester	Credits
BIOL2210, BIOL2211 Genetics (Lecture and Laboratory)	4
BIOL2300 Experimental Design	3
CHEM2262 Organic Chemistry II	3
CHEM2264 Organic Chemistry Laboratory II	2
UNIV2002 Global Issues	3
Humanities Course*	3
Total	18

5th Semester	
BIOL2237, BIOL2239 Human Structure and Function (Lecture and Laboratory)	4
BIOL3225, BIOL3226 General Microbiology (Lecture and Laboratory)	4
BIOL4900 Biology Seminar I	1
PHYS2201 Physics Laboratory I	1
PHYS2203 University Physics I	3
UNIV2001 Cross-cultural Perspectives	3
Total	16

6th Semester	
BIOL4240, BIOL4241 Molecular Cell Biology (Lecture and Laboratory)	4
BIOL4405 Ethics in Science	3
CHEM3281 Biochemistry I	3
PHYS2202 Physics Laboratory II	1
PHYS2204 University Physics II	3
Oral Communication Elective	3
Total	17

**Take 3 credits from ENGL, HIST, HUMN, LANG, PHIL or RELI courses at the 2000-level or above.*

Combined Degree Programs

B.S. in Biology/Medical Doctor
B.S. in Biology/Doctor of Osteopathic Medicine
B.S. in Biochemistry or Biology or Chemistry/Doctor of Osteopathic Medicine

Florham Campus

Biology Requirements Credits

BIOL1201, BIOL1203
Biological Diversity (Lecture and Laboratory)..... 4
BIOL1202, BIOL1204
Introduction to Molecules, Cells and Genes (Lecture and Laboratory).....4
BIOL2003, BIOL2004
Cell Biology (Lecture and Laboratory)...4
BIOL3253, BIOL3254
Comparative Anatomy (Lecture and Laboratory)..... 4
BIOL3256, BIOL3257
Genetics (Lecture and Laboratory).....4
BIOL3337, BIOL3327
General Physiology (Lecture and Laboratory)..... 4

Cognate Requirements (Chemistry, Mathematics, Physics)

CHEM1201, CHEM1202
General Chemistry I, II.....6
CHEM1203, CHEM1204
General Chemistry Laboratory I, II.....2
CHEM2261, CHEM2262
Organic Chemistry I, II.....6
CHEM2263, CHEM2264
Organic Chemistry Laboratory I, II.....2
CHEM3281
Biochemistry I.....3
MATH1107
Precalculus.....4
MATH1133
Applied Statistics.....3
MATH1203
Calculus I.....4

Students must complete the general education course plan (see pages 54–55) as well, including these specific classes:

PHIL1440
Biomedical Ethics.....3
SPCH1107
Fundamentals of Speech
or
COMM2009
Professional Communications.....3

B.S. in Biology/Medical Doctor
Seven-year Program

(with Universidad Autónoma de Guadalajara School of Medicine, Mexico)

The program is based on the U.S. model. Students who complete the program are eligible to practice medicine in all 50 states. Universidad Autónoma de Guadalajara School of Medicine is approved by the U.S. Department of Education as an eligible institution to participate in the Stafford Plus and Supplemental Student Loan Programs. While Spanish is not required for applicants, one-year, college-level Spanish is recommended. There is a rolling admissions policy and two entering classes per year (August and January). Residencies in all 50 states. (http://www.uag.edu/medicine or http://www.uag.mx).

B.S. in Biology/Doctor of Osteopathic Medicine
Seven-year Program

B.S. in Biochemistry or Biology or Chemistry/Doctor of Osteopathic Medicine
Eight-year Program

(with Lake Erie College of Osteopathic Medicine)

These combined degree programs provide qualified students the opportunity to complete a baccalaureate degree and a Doctor of Osteopathic Medicine (D.O.) degree in seven (accelerated) or eight years. The bachelor's degrees are awarded by Fairleigh Dickinson University and the doctoral degree (D.O.) by Lake Erie College of Osteopathic Medicine (LECOM). Through these Early Acceptance Programs, Fairleigh Dickinson University undergraduate students are enrolled jointly by FDU and by LECOM. Once recommended by FDU, LECOM will interview the students prior to their enrollment at Fairleigh Dickinson University or within the first two years of being properly enrolled in the program. Students interviewing successfully will be offered a provisional acceptance to LECOM's Doctor of Osteopathic Medicine program.

The "4+4" track is comprised of two phases. Phase I consists of four years of undergraduate education at Fairleigh Dickinson University and completion of the B.S. in biochemistry or biology or chemistry degree. Phase II consists of four years (three years for the Primary Care Scholars Pathway) of medical school education at LECOM and its associated clinical training sites.

The "3+4" track is comprised of two phases. Phase I consists of three years of undergraduate education at FDU. Phase II consists of four years (three years for the Primary Care Scholars Pathway) of medical school education at LECOM and its associated clinical training sites. Students enrolled in this track will receive a B.S. in biology from FDU upon completion of at least 32 credit hours at LECOM. Each academic year, a maximum combined total of five students will be accepted by LECOM into Phase II of the Early Acceptance Program from each New Jersey campus of FDU. Provisionally accepted students may not apply to any other medical school. Application to

Combined Degree Programs

B.S. in Biochemistry or Biology or Chemistry/Doctor of Osteopathic Medicine

another medical school will result in the loss of the student's provisional acceptance.

Admission to Phase I of the Combined Degree Programs

High school seniors with a combined SAT score of 1170 (ACT score of 26) and a grade point average (GPA) of 3.50 or better may apply for admission to the combined degree program. All applicants for admission to the combined degree program must satisfy secondary-school preparation in English, mathematics, biology chemistry and physics. The high school GPA and rank in class, along with letters of recommendation from high school teachers, will be of primary importance in evaluating applicant's credentials. Applicants are required to submit scores in the verbal and the mathematical components of the SAT.

Medical 3+4 Phase I Admissions Criteria:

SAT (mathematics and verbal) or ACT score: 1280 (SAT) or 29 (ACT)

High school unweighted GPA: 3.80

Medical 4+4 Phase I Admissions Criteria:

SAT (mathematics and verbal) or ACT score: 1170 (SAT) or 26 (ACT)

High school unweighted GPA: 3.50

Combined Degree Program Requirements

While enrolled at FDU, students are required to follow the accelerated preprofessional curriculum in biology (for the 3+4 track) and a curriculum in biology, biochemistry or chemistry for the 4+4 track. They are expected to maintain a minimum cumulative grade point ratio (GPR) of 3.40 or higher in all course work and a minimum GPR of 3.20 in science courses.

Qualifying for Enrollment of Phase II at Lake Erie College of Osteopathic Medicine

Qualified students enrolled in the combined degree programs will be accepted into Phase II of the program if they meet the following criteria:

• Completion of all FDU curriculum requirements, including the general education requirements and the degree program requirements for the major and all prerequisite courses required for admission at LECOM. Students need to maintain a GPR of 3.20 or higher in prerequisite courses with no grade lower. than C in any of them;

• No reduced course load will be accepted. No summer courses will be accepted except in the case of scheduling conflicts;

• Submission of a satisfactory MCAT score (established by LECOM at the time of entry into the Early Acceptance Program) in a timely fashion;

• Full-time students currently enrolled at FDU who seek admission to the combined degree programs must apply to the School of Natural Sciences, University College: Arts • Sciences • Professional Studies, Metropolitan Campus, Teaneck, N.J., or to the department of biological and allied health sciences, Maxwell Becton College of Arts and Sciences, Florham Campus, Madison, N.J., prior to February 1 of their freshman year for the 3+4 Early Acceptance Program, or by February 1 of their sophomore year for the 4+4 program; and

• Students in the "3+4" track may switch to the "4+4" track by notifying FDU's Pre-Health Professions Advisory Committee no later than December 1 of their third year of enrollment in the program.

Medical 3+4 Phase II Admissions Criteria:

Cumulative overall GPR: 3.50 or higher

Cumulative science GPR: 3.20 or higher

Academic Index Score: 125

MCAT*: 25 (at least 7 in each subcategory)

Medical 4+4 Phase II Admissions Criteria:

Cumulative overall GPR: 3.40

Cumulative science GPR: 3.20

Academic Index Score: 115

MCAT*: 25 (at least 7 in each subcategory)

Premedical Curricula

Students enrolled in the 4+4 years Early Acceptance Program will follow the curricula for the B.S. in biology (see pages 68 and 142), B.S. in biochemistry (see pages 66 and 141) or B.S. in chemistry (see pages 69 and 146).

**Students matriculating to LECOM in 2016 and later will be exempt from the MCAT requirement, provided that the minimum Academic Index Score requirement has been met and that the student has earned a grade of "C" or better in biochemistry and genetics.*

Under the provisions of the pre-osteopathic medicine accelerated program (3+4 years), students matriculate in either University College: Arts • Sciences • Professional Studies or Maxwell Becton College of Arts and Sciences for a minimum of 95 credits of course work leading to the B.S. in biology (preprofessional option). The curricula are as follows:

Metropolitan Campus Phase I (3+4 Track)

1st Semester Credits

BIOL1251, BIOL1253
General Biology I (Lecture and Laboratory).....4
CHEM1201
General Chemistry I.....3
CHEM1203
General Chemistry Laboratory I.....1
ENWR1001
Composition I: Rhetoric and Inquiry.....3
UNIV1001
Transitioning to University Life.....1
Total.....12

2nd Semester

BIOL1252, BIOL1254
General Biology II (Lecture and Laboratory)..... 4
CHEM1202
General Chemistry II.....3
CHEM1204
General Chemistry Laboratory II.....1
ENWR1002
Composition II: Research and Argument.....3
UNIV1002
Preparing for Professional Life..... 1
Mathematics Sequence..... 4
Total.....16

3rd Semester

BIOL2150, BIOL2250
Ecology and Field Biology (Lecture and Laboratory)
or
MBIO1209, MBIO1219
Introduction to Marine Biology (Lecture and Laboratory).....4
CHEM2261
Organic Chemistry I..... 3

Credits

CHEM2263
Organic Chemistry Laboratory I.....2
Mathematics Sequence.....4
Humanities Course*.....3
Total.....16

4th Semester

BIOL2210, BIOL2211
Genetics (Lecture and Laboratory).....4
BIOL2300
Experimental Design.....3
CHEM2262
Organic Chemistry II..... 3
CHEM2264
Organic Chemistry Laboratory II..... 2
UNIV2002
Global Issues.....3
Humanities Course**..... 3
Total.....18

5th Semester

BIOL2237, BIOL2239
Human Structure and Function.....4
BIOL3225, BIOL3226
General Microbiology (Lecture and Laboratory).....4
BIOL4900
Biology Seminar I.....1
PHYS2201
Physics Laboratory I..... 1
PHYS2203
University Physics I.....3
UNIV2001
Cross-cultural Perspectives.....3
Total.....16

6th Semester

BIOL4240, BIOL4241
Molecular Cell Biology (Lecture and Laboratory).....4
BIOL4405
Ethics in Science..... 3
CHEM3281
Biochemistry I.....3
PHYS2202
Physics Laboratory II.....1
PHYS2204
University Physics II.....3
Oral Communication Elective..... 3
Total.....17

**Take 3 credits from ENGL (except developmental English), HIST, HUMN, LANG, PHIL or RELI courses. Or take ART1103 Principles of Art Appreciation, ART1107 Development of Art I, ART1108 Development of Art II, ART1120 Modern Art to Mid-century, ART1131 History of Graphic Design and Illustration, ART1133 History of Photography, ART1135 Cinema I: The Director's Vision, ART1136 Cinema II: Themes in Films, ART1137 History of Fashion Design, ART2137 Global Roots of American Architecture or ART2238 The Global Art World.*
***Take 3 credits from ENGL, HIST, HUMN, LANG, PHIL or RELI courses at the 2000-level or above.*

Florham Campus (3+4 Track)

Biology Requirements Credits

BIOL1201, BIOL1203
Biological Diversity (Lecture and Laboratory)..... 4
BIOL1202, BIOL1204
Introduction to Molecules, Cells and Genes (Lecture and Laboratory).....4
BIOL2003, BIOL2004
Cell Biology (Lecture and Laboratory)...4
BIOL3253, BIOL3254
Comparative Anatomy (Lecture and Laboratory)..... 4
BIOL3256, BIOL3257
Genetics (Lecture and Laboratory).....4
BIOL3337, BIOL3327
General Physiology (Lecture and Laboratory)..... 4

Cognate Requirements (Chemistry, Mathematics, Physics)

CHEM1201, CHEM1202
General Chemistry I, II..... 6
CHEM1203, CHEM1204
General Chemistry Laboratory I, II.....2
CHEM2261, CHEM2262
Organic Chemistry I, II.....6
CHEM2263, CHEM2264
Organic Chemistry Laboratory I, II.....2
MATH1107
Precalculus.....4
MATH1133
Applied Statistics.....3
MATH1203
Calculus I.....4

Students must complete the general education course plan (see pages 54–55) as well, including these specific classes:

PHIL1440
Biomedical Ethics..... 3
SPCH1107
Fundamentals of Speech
or
COMM2099
Professional Communications.....3

Two social and behavioral science classes

From either psychology, sociology or anthropology. Each class should be in a different discipline.

B.S. in Biology/Doctor of Pharmacy
Seven-year Program

(with FDU School of Pharmacy and Health Sciences, Fairleigh Dickinson University)

Fairleigh Dickinson University sophomores and high school seniors can apply to the the B.S. in biology plus Pharm.D. combined program (3+4) offered by the School of Pharmacy and Health Sciences.

Sophomore applicants studying biology, and maintaining a 3.30 grade point ratio must also have a grade of B- or better in all prerequisite college courses. The program is even more competitive for high school students seeking admission: students must have an SAT score of 1150 or higher (on the 1600 scale) and a 3.50 grade point average.

The program is structured so that students complete three years of undergraduate work in a "feeder" science major through the Maxwell Becton College of Arts and Sciences or University College: Arts • Sciences • Professional Studies before transitioning to the School of Pharmacy and Health Sciences to begin four years of graduate work. They ultimately achieve both a Bachelor of Science and Doctor of Pharmacy.

Metropolitan Campus

A minimum of 120 credits for the B.S. degree; 100–104 of these are taken at the Metropolitan Campus in years 1–3 + 28 credits (to be approved by the department chair/director) in year 4 at FDU's School of Pharmacy and Health Sciences. Students not accepted into FDU's School of Pharmacy and Health Sciences have the option of switching out of the B.S. in biology/Pharm.D. combined degree and into another concentration.

B.S. in Biology and Doctor of Pharmacy Combined Degree

1st Semester Credits

BIOL1251
General Biology I.....3
BIOL1253
Laboratory: General Biology I.....1
CHEM1201
General Chemistry I.....3
CHEM1203
General Chemistry Laboratory I.....1
ENWR1001
Composition I: Rhetoric and Inquiry..... 3

Combined Degree Programs

B.S. in Biology/Doctor of Pharmacy

Credits

MATH2337
Applied Statistics I.....3
UNIV1001
Transitioning to University Life..... 1
Total.....15

2nd Semester

BIOL1252
General Biology II.....3
BIOL1254
Laboratory: General Biology II.....1
CHEM1202
General Chemistry II.....3
CHEM1204
General Chemistry Laboratory II..... 1
ENWR1002
Composition II: Research and Argument..... 3
MATH
Mathematics Sequence*.....4
UNIV1002
Preparing for Professional Life.....1
Total.....16

3rd Semester

BIOL2150, BIOL2250
Ecology and Field Biology (Lecture and Laboratory)
or
MBIO1209, MBIO1219
Introduction to Marine Biology (Lecture and Laboratory).....4
CHEM2261
Organic Chemistry I.....3
CHEM2263
Organic Chemistry Laboratory I.....2
MATH
Mathematics Sequence*.....4
Humanities Course**..... 3
Total.....16

4th Semester Credits

BIOL2210, BIOL2211
Genetics (Lecture and Laboratory).....4
CHEM2262
Organic Chemistry II..... 3
CHEM2264
Organic Chemistry Laboratory II.....2
UNIV2001
Cross-cultural Perspectives.....3
Humanities Course*.....3
Total.....15

5th Semester Credits

BIOL2237, BIOL2239
Human Structure and Function I (Lecture and Laboratory)..... 4
BIOL3225, BIOL3226
General Microbiology (Lecture and Laboratory)..... 4
BIOL4900
Biology Seminar I.....1
PHYS2201
Physics Laboratory I.....1
PHYS2203
University Physics I.....3
UNIV2002
Global Issues.....3
Total.....16

6th Semester

BIOL3357, BIOL3358
Human Structure and Function II (Lecture and Laboratory).....4
BIOL4240, BIOL4241
Molecular Cell Biology (Lecture and Laboratory)..... 4
CHEM3281
Biochemistry I.....3
PHYS2202
Physics Laboratory II..... 1
PHYS2204
University Physics II.....3
SPCH
Oral Communication Elective**..... 3
Total.....18

7th Semester Credits

PHRM6100
Foundations in Pharmaceutical Science: Pharmacology, Medicinal Chemistry, Pharmacokinetics.....4
PHRM6101
Foundations in Integrated Pharmacotherapy I: An Introduction to Pathophysiology, Genetics, Microbiology and Delivery of Care.....3
PHRM6201
Pharmaceutics I: Physical Pharmacy.....3
PHRM6211
Pharmaceutical Calculations I.....1
PHRM6301
Medical Communication and Technical Writing..... 2
PHRM6321
Pharmacy Practice Law.....2
PHRM6401
Professional Pharmacy Practice I: Health Care Delivery.....3

PHRM6700
Beyond the Curriculum: Foundations in Pharmacy Education.....0
Total.....18

8th Semester

PHRM6102
Integrated Pharmacotherapy II: Gastrointestinal.....3
PHRM6103
Integrated Pharmacotherapy III: Dermatology, Over-the-Counter Remedies and Self Care.....3
PHRM6104
Integrated Pharmacotherapy IV: Cardiology/Pulmonary I..... 3
PHRM6111
Integrated Pharmacotherapy II–IV: Conceptual Connections and Patient Care.....2
PHRM6202
Pharmaceutics II – Oral Dosage Forms and Biopharmaceutics/ Pharmacokinetics.....2
PHRM6402
Professional Pharmacy Practice II: Communication in Health Care.....2
PHRM6701
Beyond the Curriculum: Foundations in Pharmacy Education (2).....1
Total.....17

**Students are required to include in the first year at least one semester of Calculus.*
***Take 3 credits from ENGL (except developmental English), HIST, HUMN, LANG, PHIL or RELI courses. Or take ART1103 Principles of Art Appreciation, ART1107 Development of Art I, ART1108 Development of Art II, ART1120 Modern Art to Mid-century, ART1131 History of Graphic Design and Illustration, ART1133 History of Photography, ART1135 Cinema I: The Director's Vision, ART1136 Cinema II: Themes in Films, ART1137 History of Fashion Design, ART2137 Global Roots of American Architecture or ART2238 The Global Art World.*

**Take 3 credits from ENGL, HIST, HUMN, LANG, PHIL or RELI courses at the 2000-level or above.*
***Requirements consist of a three-credit Speech course.*

School of Pharmacy and Health Sciences Courses for All Undergraduate Majors Years 5 through 7

	Credits
PHRM6501 Introductory Pharmacy Practice Experience (IPPE) I: Community	4
PHRM7105 Integrated Pharmacotherapy V: Neurology, Psychiatry and Anesthesiology	4
PHRM7106 Integrated Pharmacotherapy VI: Infectious Disease	4
PHRM7107 Integrated Pharmacotherapy VII: Cardiology/Pulmonary II	4
PHRM7108 Integrated Pharmacotherapy VIII: Endocrine, Urinary Tract, Renal and Reproductive Health	4
PHRM7111 Integrated Pharmacotherapy V–VI: Conceptual Connections and Patient Care	2
PHRM7112 Integrated Pharmacotherapy VII–VIII: Conceptual Connections and Patient Care	2
PHRM7201 Pharmaceutics III: Dosage Forms and Drug Delivery Systems	2
PHRM7202 Pharmaceutics IV: Sterile Products and Biopharmaceuticals	2
PHRM7301 Biostatistics	2
PHRM7302 Epidemiology and Study Design Evaluation	3
PHRM7401 Professional Pharmacy Practice III: Drug Information, Informatics and Toxicology	2
PHRM7501 Introductory Pharmacy Practice Experience (IPPE) II: Institutional	4
PHRM7700 Beyond the Curriculum: Expanding Horizons (1)	0
PHRM7701 Beyond the Curriculum: Expanding Horizons (2)	1
PHRM8109 Integrated Pharmacotherapy IX: Autoimmune Diseases, Rare Diseases and Special Populations	3
PHRM8110 Integrated Pharmacotherapy X: Hematology and Oncology	3
PHRM8111 Integrated Pharmacotherapy IX–X: Conceptual Connections and Patient Care	2
PHRM8112 Integrated Pharmacotherapy I–X: A Whole System Overview and Effecting Patient Care	2
PHRM8201 Pharmacogenomics and Personalized Medicine	2
PHRM8301 Pharmacoepidemiology, Pharmacoeconomics and Health Outcomes	3
PHRM8302 Public Health and the Global Mission of Pharmacy	2
PHRM8321 Health Care Ethics and Team Decision Making	1
PHRM8402 Professional Pharmacy Practice IV: Pharmacy Leadership and Management	2
PHRM8700 Beyond the Curriculum/ Preparing Practitioners (1)	0
PHRM8701 Beyond the Curriculum/ Preparing Practitioners (2)	1
PHRM9101 Advanced Pharmacy Practice Experience (APPE) I: Community	5
PHRM9102 Advanced Pharmacy Practice Experience (APPE) II: Institutional	5
PHRM9103 Advanced Pharmacy Practice Experience (APPE) III: Ambulatory Care	5
PHRM9104 Advanced Pharmacy Practice Experience (APPE) IV: Acute Care	5
PHRM9201 Advanced Pharmacy Practice Experience (APPE) V: Elective – Community Practice I	5
PHRM9203 Advanced Pharmacy Practice Experience (APPE) V: Elective – Ambulatory Care I	5
PHRM9205 Advanced Pharmacy Practice Experience (APPE) V: Elective – Community Compounding I	5
PHRM9207 Advanced Pharmacy Practice Experience (APPE) V: Elective – Medication Therapy Management I	5
PHRM9209 Advanced Pharmacy Practice Experience (APPE) V: Elective – HIV/AIDS I	5
PHRM9211 Advanced Pharmacy Practice Experience (APPE) V: Elective – Home Infusion I	5
PHRM9301 Advanced Pharmacy Practice Experience (APPE) VI: Elective – Hospital Practice I	5
PHRM9303 Advanced Pharmacy Practice Experience (APPE) VI: Elective – Acute Care I	5
PHRM9305 Advanced Pharmacy Practice Experience (APPE) VI: Elective – Long Term Care I	5
PHRM9307 Advanced Pharmacy Practice Experience (APPE) VI: Elective – Infectious Disease I	5
PHRM9309 Advanced Pharmacy Practice Experience (APPE) VI: Elective – Oncology I	5
PHRM9311 Advanced Pharmacy Practice Experience (APPE) VI: Elective – Critical Care I	5
PHRM9313 Advanced Pharmacy Practice Experience (APPE) VI: Elective – Cardiology I	5
PHRM9315 Advanced Pharmacy Practice Experience (APPE) VI: Elective – Behavioral Health I	5
PHRM9401 Advanced Pharmacy Practice Experience (APPE) VII: Elective – Drug Information I	5
PHRM9403 Advanced Pharmacy Practice Experience (APPE) VII: Elective – Medication Safety I	5
PHRM9405 Advanced Pharmacy Practice Experience (APPE) VII: Elective – Managed Care I	5

Combined Degree Programs

B.S. in Biology/Doctor of Pharmacy

Credits

PHRM9407
Advanced Pharmacy Practice Experience (APPE) VII: Elective – Specialty Pharmacy I.....5
PHRM9409
Advanced Pharmacy Practice Experience (APPE) VII: Elective – Medical Device/Patient Safety I.....5
PHRM9501
Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Public Health I.....5
PHRM9503
Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Industry I.....5
PHRM9505
Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Research I.....5
PHRM9507
Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Marketing I.....5
PHRM9509
Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Patient Advocacy I.....5
PHRM9511
Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Health Care Organization Management I.....5
PHRM9513
Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Informatics I.....5
PHRM9515
Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Management I.....5
PHRM9517
Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Regulatory I.....5
PHRM9900
Pharmacy Capstone I.....1
PHRM9901
Pharmacy Capstone II.....2

Florham Campus

B.S. in Biology and Doctor of Pharmacy Combined Degree

Major Requirements (24 credits)

Credits

BIOL1201
Biological Diversity (Lecture and Laboratory).....4
BIOL1202
Introduction to Molecules, Cells and Genes (Lecture and Laboratory).....4
BIOL2003
Cell Biology (Lecture and Laboratory).....4
BIOL3253
Comparative Anatomy (Lecture and Laboratory).....4
BIOL3256
Genetics (Lecture and Laboratory).....4
BIOL3337
General Physiology (Lecture and Laboratory).....4

Cognate Requirements (19 credits)

CHEM1201
General Chemistry I.....3
CHEM1203
General Chemistry Laboratory I.....1
CHEM1202
General Chemistry II.....3
CHEM1204
General Chemistry Laboratory II.....1
CHEM2261
Organic Chemistry I.....3
CHEM2262
Organic Chemistry II.....3
CHEM2263
Organic Chemistry Laboratory I.....1
CHEM2264
Organic Chemistry Laboratory II.....1
CHEM3281
Biochemistry I.....3
MATH1203
Calculus I.....4
PHYS1001, PHYS1011
General Physics I (Lecture and Laboratory).....4
PHYS1002, PHYS1012
General Physics II (Lecture and Laboratory).....4

School of Pharmacy and Health Sciences Courses for All Undergraduate Majors Years 5 through 7

Credits

PHRM6501
Introductory Pharmacy Practice Experience (IPPE) I: Community.....4
PHRM7105
Integrated Pharmacotherapy V: Neurology, Psychiatry and Anesthesiology.....4
PHRM7106
Integrated Pharmacotherapy VI: Infectious Disease.....4
PHRM7107
Integrated Pharmacotherapy VII: Cardiology/Pulmonary II.....4
PHRM7108
Integrated Pharmacotherapy VIII: Endocrine, Urinary Tract, Renal and Reproductive Health.....4
PHRM7111
Integrated Pharmacotherapy V–VI: Conceptual Connections and Patient Care.....2
PHRM7112
Integrated Pharmacotherapy VII–VIII: Conceptual Connections and Patient Care.....2
PHRM7201
Pharmaceutics III: Dosage Forms and Drug Delivery Systems.....2
PHRM7202
Pharmaceutics IV: Sterile Products and Biopharmaceuticals.....2
PHRM7301
Biostatistics.....2
PHRM7302
Epidemiology and Study Design Evaluation.....3
PHRM7401
Professional Pharmacy Practice III: Drug Information, Informatics and Toxicology.....2
PHRM7501
Introductory Pharmacy Practice Experience (IPPE) II: Institutional.....4
PHRM7700
Beyond the Curriculum: Expanding Horizons (1).....0
PHRM7701
Beyond the Curriculum: Expanding Horizons (2).....1
PHRM8109
Integrated Pharmacotherapy IX: Autoimmune Diseases, Rare Diseases and Special Populations.....3

Credits

PHRM8110
Integrated Pharmacotherapy X: Hematology and Oncology....3
PHRM8111
Integrated Pharmacotherapy IX–X: Conceptual Connections and Patient Care....2
PHRM8112
Integrated Pharmacotherapy I–X: A Whole System Overview and Effecting Patient Care....2
PHRM8201
Pharmacogenomics and Personalized Medicine....2
PHRM8301
Pharmacoepidemiology, Pharmacoeconomics and Health Outcomes....3
PHRM8321
Health Care Ethics and Team Decision Making....1
PHRM8302
Public Health and the Global Mission of Pharmacy....2
PHRM8402
Professional Pharmacy Practice IV: Pharmacy Leadership and Management....2
PHRM8700
Beyond the Curriculum/ Preparing Practitioners (1)....0
PHRM8701
Beyond the Curriculum/ Preparing Practitioners (2)....1

Credits

PHRM9101
Advanced Pharmacy Practice Experience (APPE) I: Community....5
PHRM9102
Advanced Pharmacy Practice Experience (APPE) II: Institutional...5
PHRM9103
Advanced Pharmacy Practice Experience (APPE) III: Ambulatory Care....5
PHRM9104
Advanced Pharmacy Practice Experience (APPE) IV: Acute Care...5
PHRM9201
Advanced Pharmacy Practice Experience (APPE) V: Elective – Community Practice I....5
PHRM9203
Advanced Pharmacy Practice Experience (APPE) V: Elective – Ambulatory Care I....5

Credits

PHRM9205
Advanced Pharmacy Practice Experience (APPE) V: Elective – Community Compounding I....5
PHRM9207
Advanced Pharmacy Practice Experience (APPE) V: Elective – Medication Therapy Management I....5
PHRM9209
Advanced Pharmacy Practice Experience (APPE) V: Elective – HIV/AIDS I....5
PHRM9211
Advanced Pharmacy Practice Experience (APPE) V: Elective – Home Infusion I....5
PHRM9301
Advanced Pharmacy Practice Experience (APPE) VI: Elective – Hospital Practice I....5
PHRM9303
Advanced Pharmacy Practice Experience (APPE) VI: Elective – Acute Care I....5
PHRM9305
Advanced Pharmacy Practice Experience (APPE) VI: Elective – Long Term Care I....5
PHRM9307
Advanced Pharmacy Practice Experience (APPE) VI: Elective – Infectious Disease I....5
PHRM9309
Advanced Pharmacy Practice Experience (APPE) VI: Elective – Oncology I....5
PHRM9311
Advanced Pharmacy Practice Experience (APPE) VI: Elective – Critical Care I....5
PHRM9313
Advanced Pharmacy Practice Experience (APPE) VI: Elective – Cardiology I....5
PHRM9315
Advanced Pharmacy Practice Experience (APPE) VI: Elective – Behavioral Health I....5
PHRM9401
Advanced Pharmacy Practice Experience (APPE) VII: Elective – Drug Information I....5
PHRM9403
Advanced Pharmacy Practice Experience (APPE) VII: Elective – Medication Safety I....5

Credits

PHRM9405
Advanced Pharmacy Practice Experience (APPE) VII: Elective – Managed Care I....5
PHRM9407
Advanced Pharmacy Practice Experience (APPE) VII: Elective – Specialty Pharmacy I....5
PHRM9409
Advanced Pharmacy Practice Experience (APPE) VII: Elective – Medical Device/Patient Safety I....5
PHRM9501
Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Public Health I....5
PHRM9503
Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Industry I....5
PHRM9505
Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Research I....5
PHRM9507
Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Marketing I....5
PHRM9509
Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Patient Advocacy I....5
PHRM9511
Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Health Care Organization Management I....5
PHRM9513
Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Informatics I....5
PHRM9515
Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Management I....5
PHRM9517
Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Regulatory I....5
PHRM9900
Pharmacy Capstone I....1
PHRM9901
Pharmacy Capstone II....2

Combined Degree Programs

B.S. in Biology/Doctor of Physical Therapy

B.S. in Biology/Doctor of Physical Therapy Six-year Program

(with FDU's Henry P. Becton School of Nursing and Allied Health in partnership with the Rutgers School of Health Professions [Rutgers SHP])

This physical therapy program is a collaborative program between Fairleigh Dickinson University and the Rutgers School of Health Professions (Rutgers SHP). Students who successfully complete the program are awarded a B.S. in biology from FDU and a Doctor of Physical Therapy (D.P.T.) degree from Rutgers SHP.

This program offers an outstanding opportunity for talented and motivated students with a strong career interest to fast-track their careers. Students who wish to become physical therapists are provided with a state-of-the-art education that prepares them to be at the forefront of the physical therapy profession.

Students in the entry-level component of the program spend their first years at FDU, completing 92 credits of required courses (48 credits of University and Core requirements and 44 credits of major requirements). Students must formally apply for acceptance into the professional component at the Rutgers SHP Physical Therapy Program.

Once accepted to the professional component, students complete their fourth year of undergraduate study at Rutgers SHP. Upon completion of 38 credits at Rutgers SHP, Fairleigh Dickinson University will award the B.S. in biology degree.

After earning the B.S. degree, students are required to successfully complete an additional 72 credits in the D.P.T. program at Rutgers SHP, upon which Rutgers SHP will award the D.P.T. degree.

Admission Requirements for the D.P.T. Program of Rutgers SHP

• Completion of all the University and Core requirements at FDU while maintaining an overall grade point ratio (GPR) of 3.00;

• A minimum GPR of 3.00 in all required science and mathematics courses;

• Demonstrated knowledge of the physical therapy profession through actual work or volunteer experience;

• Evidence of community service;

• Formal application to the Rutgers SHP Physical Therapy Program for the professional component of the program;

• Satisfactory scores on all three sections (verbal, quantitative and analytical) of the Graduate Record Examination (GRE);

• Three letters of recommendation; and

• Basic computer literacy, including file management, use of word processing and spreadsheet programs and use of email and internet.

Undergraduate Sequence

Metropolitan Campus

1st Semester	Credits
BIOL1251, BIOL1253 General Biology I (Lecture and Laboratory)	4
CHEM1201 General Chemistry I	3
CHEM1203 General Chemistry Laboratory I	1
ENWR1001 Composition I: Rhetoric and Inquiry	3
MATH1107 Precalculus	4
UNIV1001 Transitioning to University Life	1
Total	16

2nd Semester	Credits
BIOL1252, BIOL1254 General Biology II (Lecture and Laboratory)	4
CHEM1202 General Chemistry II	3
CHEM1204 General Chemistry Laboratory II	1
ENWR1002 Composition II: Research and Argument	3
MATH1201 Calculus I	4
UNIV1002 Preparing for Professional Life	1
Total	16

3rd Semester	Credits
BIOL2203, BIOL2223 Human Anatomy and Physiology I (Lecture and Laboratory)	4
CHEM2261 Organic Chemistry I	3
CHEM2263 Organic Chemistry Laboratory I	2
CSCI1105 Survey of Computers and Computer Software	3
UNIV2001 Cross-cultural Perspectives	3
Oral Communication Elective	3
Total	18

4th Semester	Credits
BIOL2204, BIOL2224 Human Anatomy and Physiology II (Lecture and Laboratory)	4
CHEM2262 Organic Chemistry II	3
CHEM2264 Organic Chemistry Laboratory II	2
PSYC1103 General Psychology I	3
UNIV2002 Global Issues	3
Total	15

5th Semester	
MEDT1130 Bioethics	3
PHYS2201 Physics Laboratory I	1
PHYS2203 University Physics I	3
PSYC2201 Statistics	3
Humanities Course*	3
Total	13

6th Semester	
BIOL2125, BIOL2126 Microbiology for the Health Sciences (Lecture and Laboratory)	4
NURS3208 Introduction to Health Care Economics	3
NURS4420 Health Care Management	3
PHYS2202 Physics Laboratory II	1
PHYS2204 University Physics II	3
Total	14

**Take 3 credits from ENGL (except developmental English), HIST, HUMN, LANG, PHIL or RELI courses. Or take ART1103 Principles of Art Appreciation, ART1107 Development of Art I, ART1108 Development of Art II, ART1120 Modern Art to Mid-century, ART1131 History of Graphic Design and Illustration, ART1133 History of Photography, ART1135 Cinema I: The Director's Vision, ART1136 Cinema II: Themes in Films, ART1137 History of Fashion Design, ART2137 Global Roots of American Architecture or ART2238 The Global Art World.*

B.S. in Biology/Doctor of Podiatric Medicine Seven-year Program

(with New York College of Podiatric Medicine)

This accelerated, combined degree program provides qualified students the opportunity to complete a baccalaureate degree and a Doctor of Podiatric Medicine (D.P.M.) degree in seven years, one year less than the normal span of eight years. The bachelor's degree (B.S. in biology) is awarded by Fairleigh Dickinson University and the doctoral degree (D.P.M.) by New York College of Podiatric Medicine.

Students are admitted at FDU as incoming freshmen or qualified transfer students. They may apply for the B.S. degree upon successful completion of six semesters at FDU, including the courses listed below, and the first year of study (three semesters) at New York College of Podiatric Medicine. A maximum of 32 credits from New York College of Podiatric Medicine may be transferred toward completion of the B.S. degree at FDU.

Admission to the Combined Degree Program

High school seniors who satisfy the requirements for admission to the FDU preprofessional program may apply for admission to the combined degree program.

All applicants for admission to the combined degree program must satisfy secondary-school preparation in English, mathematics, biology, chemistry and physics. The high school grade point average (GPA) and rank in class, along with letters of recommendation from high school teachers, will be of primary importance in evaluating applicants' credentials. Applicants are required to submit score in the verbal and mathematical components of the SAT.

After preliminary screening of the applications by the FDU Office of Admissions, qualified applicants will be invited for an interview with the FDU/New York College of Podiatric Medicine Joint Admissions Committee.

Combined Degree Program Requirements

While enrolled at FDU, students are required to follow the accelerated preprofessional curriculum in biology and are expected to maintain a minimum cumulative grade point ratio of 3.25 or higher in all course work and a minimum of C in all science and mathematics courses.

Qualifying for Enrollment at New York College of Podiatric Medicine

Qualified students enrolled in the combined degree program will be guaranteed a seat at New York College of Podiatric Medicine for training in podiatry. To qualify, students must meet the following criteria:

- Completion of all FDU curriculum requirements, including the general education requirements and the degree program requirements for the major and all prerequisite courses required for admission to New York College of Podiatric Medicine. Students need to obtain a grade of C or higher in required courses;
- A grade point ratio (GPR) of 3.00 or higher;
- Submission of a satisfactory Medical College Admission Test (MCAT) score (at least equal to the current minimum) in a timely fashion;
- A satisfactory evaluation in a personal interview;
- At least three letters of evaluation;
- Students currently enrolled at FDU who seek admission to the combined degree program must apply to the School of Natural Sciences, University College: Arts • Sciences • Professional Studies, Metropolitan Campus, Teaneck, N.J., or the department of biological and allied health sciences at the Florham Campus, Madison, N.J., prior to the completion of 60 credit hours at FDU or at least one year before the anticipated date of matriculation at New York College of Podiatric Medicine; and

Students enrolled in the combined degree program who decide to complete the B.S. degree at FDU prior to entering New York College of Podiatric Medicine must make this known to their school director or department chair prior to the completion of 60 credits at FDU or at least one year before the anticipated date of matriculation at New York College of Podiatric Medicine.

Prepodiatry Curriculum

Under the provisions of the prepodiatry program, students matriculate in the School of Natural Sciences of University College: Arts • Sciences • Professional Studies, Metropolitan Campus, or the department of biological and allied health sciences, Florham Campus, for a minimum of 96 credits (University College) and 98 credits (Becton College) of course work leading to the B.S. in biology (preprofessional option). The curriculum is as follows:

Florham Campus Credits

Biology Requirements

BIOL1201, BIOL1203
Biological Diversity (Lecture and Laboratory)..... 4

BIOL1202, BIOL1204
Introduction to Molecules, Cells and Genes (Lecture and Laboratory).....4

BIOL2003, BIOL2004
Cell Biology (Lecture and Laboratory)...4

BIOL3009, BIOL3019
Microbiology (Lecture and Laboratory).....4

BIOL3253, BIOL3254
Comparative Anatomy (Lecture and Laboratory)..... 4

BIOL3256, BIOL3257
Genetics (Lecture and Laboratory).....4

BIOL3337, BIOL3327
General Physiology (Lecture and Laboratory)..... 4

Cognate Requirements (Chemistry, Mathematics, Physics)

CHEM1201, CHEM1202
General Chemistry I, II.....6

CHEM1203, CHEM1204
General Chemistry Laboratory I, II.....2

CHEM2261, CHEM2262
Organic Chemistry I, II.....6

CHEM2263, CHEM2264
Organic Chemistry Laboratory I, II.....2

CHEM3281
Biochemistry I.....3

MATH1107
Precalculus.....4

MATH1133
Applied Statistics.....3

MATH1203
Calculus I.....4

Students must complete the general education course plan (see pages 54–55) as well.

Combined Degree Programs

B.S. in Biology/Doctor of Veterinary Medicine

Metropolitan Campus

1st Semester Credits

BIOL1251
General Biology I.....3
BIOL1253
Laboratory: General Biology I.....1
CHEM1201
General Chemistry I.....3
CHEM1203
General Chemistry Laboratory I.....1
ENWR1001
Composition I: Rhetoric and Inquiry.....3
UNIV1001
Transitioning to University Life.....1
Total.....12

2nd Semester

BIOL1252
General Biology II.....3
BIOL1254
Laboratory: General Biology II.....1
CHEM1202
General Chemistry II.....3
CHEM1204
General Chemistry Laboratory II.....1
ENWR1002
Composition II: Research and Argument.....3
UNIV1002
Preparing for Professional Life.....1
Mathematics Sequence.....4
Total.....16

3rd Semester

BIOL2150, BIOL2250
Ecology and Field Biology (Lecture and Laboratory).....4
CHEM2261
Organic Chemistry I.....3
CHEM2263
Organic Chemistry Laboratory I.....2
Mathematics Sequence.....4
Humanities Course*.....3
Total.....16

**Take 3 credits from ENGL (except developmental English), HIST, HUMN, LANG, PHIL or RELI courses. Or take ART1103 Principles of Art Appreciation, ART1107 Development of Art I, ART1108 Development of Art II, ART1120 Modern Art to Mid-century, ART1131 History of Graphic Design and Illustration, ART1133 History of Photography, ART1135 Cinema I: The Director's Vision, ART1136 Cinema II: Themes in Films, ART1137 History of Fashion Design, ART2137 Global Roots of American Architecture or ART2238 The Global Art World.*

4th Semester

BIOL2210, BIOL2211
Genetics (Lecture and Laboratory).....4
BIOL2300
Experimental Design.....3
CHEM2262
Organic Chemistry II.....3
CHEM2264
Organic Chemistry Laboratory II.....2
UNIV2002
Global Issues.....3
Humanities Course*.....3
Total.....18

5th Semester Credits

BIOL2237, BIOL2239
Human Structure and Function (Lecture and Laboratory).....4
BIOL3225, BIOL3226
General Microbiology (Lecture and Laboratory).....4
BIOL4900
Biology Seminar I.....1
PHYS2201
Physics Laboratory I.....1
PHYS2203
University Physics I.....3
UNIV2001
Cross-cultural Perspectives.....3
Total.....16

6th Semester

BIOL4240, BIOL4241
Molecular Cell Biology.....4
BIOL4405
Ethics in Science.....3
CHEM3281
Biochemistry I.....3
PHYS2202
Physics Laboratory II.....1
PHYS2204
University Physics II.....3
Oral Communication Elective.....3
Total.....17

**Take 3 credits from ENGL, HIST, HUMN, LANG, PHIL or RELI courses at the 2000-level or above.*

B.S. in Biology/Doctor of Veterinary Medicine Seven-year Program

(with Ross University School of Veterinary Medicine, Basseterre, St. Kitts, West Indies)
This accelerated, combined degree program provides qualified students the opportunity to complete a baccalaureate degree and a Doctor of Veterinary Medicine (D.V.M.) degree in seven years, one year less than the normal span of eight years. The bachelor's degree (B.S. in biology) is awarded by Fairleigh Dickinson University and the doctoral degree (D.V.M.) by Ross University. English is the teaching language.

Students are admitted to FDU as incoming freshmen or qualified transfer students. They may apply for the B.S. degree upon successful completion of six semesters at FDU, including the courses listed below, and the first year of study (three semesters) at Ross University. A maximum of 32 credits from Ross University may be transferred toward completion of the B.S. degree at FDU.

The program prepares students interested in pursuing a Doctor of Veterinary Medicine degree to become successful veterinarians in the United States. The program is an accelerated program which takes a little more than three years. The last three semesters are spent on the campus of one of the U.S. veterinary schools affiliated with Ross University School of Veterinary Medicine. The U.S. Department of Education has certified Ross University School of Veterinary Medicine as an eligible institution for the Title IV U.S. Federal Family Education Loan program.

Website: http://www.rossu.edu/vet/.

Admission to the Combined Degree Program

High school seniors with a combined SAT score of 1150 and higher and ranking in the top 25 percent of their class or qualified students who have completed their first year of college study with a grade point ratio (GPR) of 3.40 or higher may apply for admission to the combined degree program.

All applicants for admission to the combined degree program must satisfy secondary-school preparation in English, mathematics, biology, chemistry and physics. The high school grade point average and rank in class, along with letters of

recommendation from high school teachers, will be of primary importance in evaluating applicants' credentials. Applicants are required to submit scores in the verbal and mathematical components of the SAT.

After preliminary screening of the applications by the FDU Office of Admissions, qualified applicants will be invited for an interview with the FDU/Ross University Joint Admissions Committee.

Combined Degree Program Requirements

While enrolled at FDU, students are required to follow the accelerated preprofessional curriculum in biology and are expected to maintain a minimum cumulative grade point ratio (CGPR) of 3.25 or higher in all course work and a minimum of 3.00 in prerequisite courses required by Ross University.

Qualifying for Enrollment at Ross University School of Veterinary Medicine

Qualified students enrolled in the combined degree program will be guaranteed a seat at Ross University for training in veterinary medicine. To qualify, students must meet the following criteria:

- Completion of all FDU curriculum requirements, including the general education requirements and the degree program requirements for the major and all prerequisite courses required for admission at Ross University School of Veterinary Medicine. Students need to obtain a GPR of 3.00 or higher in prerequisite courses with no D or F in any of the courses;
- A GPR of 3.25 or higher;
- Submission of a satisfactory Graduate Record Examinations (GRE) score in the 25th percentile or better in each category;
- Students currently enrolled at FDU who seek admission to the combined degree program must apply to the School of Natural Sciences, University College: Arts • Sciences • Professional Studies, Metropolitan Campus, Teaneck, N.J., or to the department of biological and allied health sciences, Maxwell Becton College of Arts and Sciences, Florham Campus, Madison, N.J., prior to the completion of 60 credit hours at FDU or at least one year before the anticipated date of matriculation at Ross University; and
- Students enrolled in the combined degree program who decide to complete the B.S. degree at FDU prior to entering Ross University must make this known to their school director or department chair prior to the completion of 60 credits at FDU or at least one year before the anticipated date of matriculation at Ross University.

Preveterinary Curricula

Under the provisions of the preveterinary program, students matriculate in either University College: Arts • Sciences • Professional Studies, Metropolitan Campus, or Maxwell Becton College of Arts and Sciences, Florham Campus, for a minimum of 96 credits of course work leading to the B.S. in biology (preprofessional option). The curriculum is as follows:

Florham Campus

Biology Requirements Credits

BIOL1201, BIOL1203
Biological Diversity (Lecture and Laboratory)..... 4

BIOL1202, BIOL1204
Introduction to Molecules, Cells and Genes (Lecture and Laboratory).....4

BIOL2003, BIOL2004
Cell Biology (Lecture and Laboratory)...4

BIOL3253, BIOL3254
Comparative Anatomy (Lecture and Laboratory)..... 4

BIOL3256, BIOL3257
Genetics (Lecture and Laboratory).....4

BIOL3337, BIOL3327
General Physiology (Lecture and Laboratory)..... 4

Cognate Requirements (Chemistry, Mathematics, Physics)

CHEM1201, CHEM1202
General Chemistry I, II..... 6

CHEM1203, CHEM1204
General Chemistry Laboratory I, II.....2

CHEM2261, CHEM2262
Organic Chemistry I, II.....6

CHEM2263, CHEM2264
Organic Chemistry Laboratory I, II.....2

CHEM3281
Biochemistry I.....3

MATH1107
Precalculus.....4

MATH1133
Applied Statistics.....3

MATH1203
Calculus I.....4

Students must complete the general education course plan (see pages 54–55) as well, including these specific classes:

Credits

PHIL1440
Biomedical Ethics.....3

SPCH1107
Fundamentals of Speech
or
COMM2099
Professional Communications.....3

Metropolitan Campus

1st Semester

BIOL1251
General Biology I.....3

BIOL1253
Laboratory: General Biology I.....1

CHEM1201
General Chemistry I..... 3

CHEM1203
General Chemistry Laboratory I.....1

ENWR1001
Composition I: Rhetoric and Inquiry.....3

UNIV1001
Transitioning to University Life..... 1

Total.....12

2nd Semester

BIOL1252
General Biology II.....3

BIOL1254
Laboratory: General Biology II..... 1

CHEM1202
General Chemistry II.....3

CHEM1204
General Chemistry Laboratory II.....1

ENWR1002
Composition II: Research and Argument..... 3

UNIV1002
Preparing for Professional Life..... 1

Mathematics Sequence.....4

Total.....16

Combined Degree Programs

B.S. in Chemistry/Doctor of Pharmacy

3rd Semester Credits

BIOL2150, BIOL2250
Ecology and Field Biology (Lecture and Laboratory).....4
CHEM2261
Organic Chemistry I..... 3
CHEM2263
Organic Chemistry Laboratory I.....2
Mathematics Sequence.....4
Humanities Course*.....3
Total.....16

4th Semester

BIOL2210, BIOL2211
Genetics (Lecture and Laboratory).....4
BIOL2300
Experimental Design.....3
CHEM2262
Organic Chemistry II.....3
CHEM2264
Organic Chemistry Laboratory II.....2
UNIV2002
Global Issues.....3
Humanities Course**..... 3
Total.....18

5th Semester

BIOL2237, BIOL2239
Human Structure and Function (Lecture and Laboratory)..... 4
BIOL3225, BIOL3226
General Microbiology (Lecture and Laboratory)..... 4
BIOL4900
Biology Seminar I.....1
PHYS2201
Physics Laboratory I.....1
PHYS2203
University Physics I..... 3
UNIV2001
Cross-cultural Perspectives.....3
Total.....16

6th Semester Credits

BIOL4240, BIOL4241
Molecular Cell Biology (Lecture and Laboratory).....4
BIOL4405
Ethics in Science.....3
CHEM3281
Biochemistry I..... 3
PHYS2202
Physics Laboratory II.....1
PHYS2204
University Physics II..... 3
Oral Communication Elective..... 3
Total.....17

**Take 3 credits from ENGL (except developmental English), HIST, HUMN, LANG, PHIL or RELI courses. Or take ART1103 Principles of Art Appreciation, ART1107 Development of Art I, ART1108 Development of Art II, ART1120 Modern Art to Mid-century, ART1131 History of Graphic Design and Illustration, ART1133 History of Photography, ART1135 Cinema I: The Director's Vision, ART1136 Cinema II: Themes in Films, ART1137 History of Fashion Design, ART2137 Global Roots of American Architecture or ART2238 The Global Art World.*
***Take 3 credits from ENGL, HIST, HUMN, LANG, PHIL or RELI courses at the 2000-level or above.*

B.S. in Chemistry/Doctor of Pharmacy

Seven-year Program

(with FDU School of Pharmacy and Health Sciences, Fairleigh Dickinson University)

Fairleigh Dickinson University sophomores and high school seniors can apply to the the B.S. in chemistry plus Pharm.D. combined program (3+4) offered by the School of Pharmacy and Health Sciences.

Sophomore applicants studying chemistry (minimum of 30 credits, maximum of 60 credits), and maintaining a 3.30 grade point ratio must also have a grade of B- or better in all prerequisite college courses. The program is even more competitive for high school students seeking admission: students must have an SAT score of 1150 or higher (on the 1600 scale) and a 3.50 grade point average.

The program is structured so that students complete three years of undergraduate work in a "feeder" science major through the Maxwell Becton College of Arts and Sciences or University College: Arts • Sciences • Professional Studies before transitioning to the School of Pharmacy and Health Sciences to begin four years of graduate work. They ultimately achieve both a Bachelor of Science and Doctor of Pharmacy.

Metropolitan Campus

A minimum of 120 credits for the B.S. degree; 100–104 of these are taken at the Metropolitan Campus in years 1–3 + 28 credits (to be approved by the department chair/director) in year 4 at FDU's School of Pharmacy and Health Sciences. Students not accepted into FDU's School of Pharmacy and Health Sciences have the option of switching out of the B.S. in chemistry/Pharm.D. combined degree and into another concentration.

B.S. in Chemistry and Doctor of Pharmacy Combined Degree

1st Semester Credits

BIOL1251
General Biology I.....3
BIOL1253
Laboratory: General Biology I.....1
CHEM1201
General Chemistry I.....3
CHEM1203
General Chemistry Laboratory I.....1

Combined Degree Programs

B.S. in Chemistry/Doctor of Pharmacy

	Credits
ENWR1001 Composition I: Rhetoric and Inquiry	3
MATH1201 Calculus I	4
UNIV1001 Transitioning to University Life	1
Total	16

2nd Semester

	Credits
BIOL1252 General Biology II	3
BIOL1254 Laboratory: General Biology II	1
CHEM1202 General Chemistry II	3
CHEM1204 General Chemistry Laboratory II	1
ENWR1002 Composition II: Research and Argument	3
MATH2202 Calculus II	4
UNIV1002 Preparing for Professional Life	1
Total	16

3rd Semester

	Credits
CHEM2261 Organic Chemistry I	3
CHEM2263 Organic Chemistry Laboratory I	2
PHYS2201 Physics Laboratory I	1
PHYS2203 University Physics I	3
UNIV2001 Cross-cultural Perspectives	3
Humanities Course*	3
Total	15

**Take 3 credits from ENGL (except developmental English), HIST, HUMN, LANG, PHIL or RELI courses. Or take ART1103 Principles of Art Appreciation, ART1107 Development of Art I, ART1108 Development of Art II, ART1120 Modern Art to Mid-century, ART1131 History of Graphic Design and Illustration, ART1133 History of Photography, ART1135 Cinema I: The Director's Vision, ART1136 Cinema II: Themes in Films, ART1137 History of Fashion Design, ART2137 Global Roots of American Architecture or ART2238 The Global Art World.*

4th Semester

	Credits
CHEM2262 Organic Chemistry II	3
CHEM2264 Organic Chemistry Laboratory II	2
PHYS2202 Physics Laboratory II	1
PHYS2204 University Physics II	3
SPCH Oral Communication Elective*	3
UNIV2002 Global Issues	3
Humanities Course**	3
Total	18

5th Semester

	Credits
BIOL2203, BIOL2223 Human Anatomy and Physiology I (Lecture and Laboratory)	4
BIOL4405 Ethics in Science	3
CHEM3241, CHEM3243 Physical Chemistry I (Lecture and Laboratory)	
or	
CHEM4233, CHEM4234 Instrumental Analysis (Lecture and Laboratory)	5
MATH2337 Applied Statistics I	3
Total	15

6th Semester

	Credits
BIOL2204, BIOL2224 Human Anatomy and Physiology II (Lecture and Laboratory)	4
CHEM3231, CHEM3232 Analytical Chemistry (Lecture and Laboratory)	4
BIOL4901 Biology Seminar II	1
or	
CHEM3242, CHEM3244 Physical Chemistry II (Lecture and Laboratory)	5
CHEM3281 Biochemistry I	3
Free Elective	3
Total	15

**Requirements consist of a three-credit Speech course.*
***Take 3 credits from ENGL, HIST, HUMN, LANG, PHIL or RELI courses at the 2000-level or above.*

7th Semester

	Credits
PHRM6100 Foundations in Pharmaceutical Science: Pharmacology, Medicinal Chemistry, Pharmacokinetics	4
PHRM6101 Foundations in Integrated Pharmacotherapy I: An Introduction to Pathophysiology, Genetics, Microbiology and Delivery of Care	3
PHRM6201 Pharmaceutics I: Physical Pharmacy	3
PHRM6211 Pharmaceutical Calculations I	1
PHRM6301 Medical Communication and Technical Writing	2
PHRM6321 Pharmacy Practice Law	2
PHRM6401 Professional Pharmacy Practice I: Health Care Delivery	3
PHRM6700 Beyond the Curriculum: Foundations in Pharmacy Education	0
Total	18

8th Semester

	Credits
PHRM6102 Integrated Pharmacotherapy II: Gastrointestinal	3
PHRM6103 Integrated Pharmacotherapy III: Dermatology, Over-the-Counter Remedies and Self Care	3
PHRM6104 Integrated Pharmacotherapy IV: Cardiology/Pulmonary I	3
PHRM6111 Integrated Pharmacotherapy II–IV: Conceptual Connections and Patient Care	2
PHRM6202 Pharmaceutics II – Oral Dosage Forms and Biopharmaceutics/ Pharmacokinetics	2
PHRM6402 Professional Pharmacy Practice II: Communication in Health Care	2
PHRM6701 Beyond the Curriculum: Foundations in Pharmacy Education (1)	1
Total	17

Combined Degree Programs

B.S. in Chemistry/Doctor of Pharmacy

School of Pharmacy and Health Sciences Courses for All Undergraduate Majors Years 5 through 7

Credits

PHRM6501
Introductory Pharmacy Practice Experience (IPPE) I: Community....4
PHRM7105
Integrated Pharmacotherapy V: Neurology, Psychiatry and Anesthesiology....4
PHRM7106
Integrated Pharmacotherapy VI: Infectious Disease....4
PHRM7107
Integrated Pharmacotherapy VII: Cardiology/Pulmonary II....4
PHRM7108
Integrated Pharmacotherapy VIII: Endocrine, Urinary Tract, Renal and Reproductive Health....4
PHRM7111
Integrated Pharmacotherapy V–VI: Conceptual Connections and Patient Care....2
PHRM7112
Integrated Pharmacotherapy VII–VIII: Conceptual Connections and Patient Care....2
PHRM7201
Pharmaceutics III: Dosage Forms and Drug Delivery Systems....2
PHRM7202
Pharmaceutics IV: Sterile Products and Biopharmaceuticals....2
PHRM7301
Biostatistics....2
PHRM7302
Epidemiology and Study Design Evaluation....3
PHRM7401
Professional Pharmacy Practice III: Drug Information, Informatics and Toxicology....2
PHRM7501
Introductory Pharmacy Practice Experience (IPPE) II: Institutional....4
PHRM7700
Beyond the Curriculum: Expanding Horizons (1)....0
PHRM7701
Beyond the Curriculum: Expanding Horizons (2)....1
PHRM8109
Integrated Pharmacotherapy IX: Autoimmune Diseases, Rare Diseases and Special Populations....3

Credits

PHRM8110
Integrated Pharmacotherapy X: Hematology and Oncology....3
PHRM8111
Integrated Pharmacotherapy IX–X: Conceptual Connections and Patient Care....2
PHRM8112
Integrated Pharmacotherapy I–X: A Whole System Overview and Effecting Patient Care....2
PHRM8201
Pharmacogenomics and Personalized Medicine....2
PHRM8301
Pharmacoepidemiology, Pharmacoeconomics and Health Outcomes....3
PHRM8302
Public Health and the Global Mission of Pharmacy....2
PHRM8321
Health Care Ethics and Team Decision Making....1
PHRM8402
Professional Pharmacy Practice IV: Pharmacy Leadership and Management....2
PHRM8700
Beyond the Curriculum/ Preparing Practitioners (1)....0
PHRM8701
Beyond the Curriculum/ Preparing Practitioners (2)....1
PHRM9101
Advanced Pharmacy Practice Experience (APPE) I: Community....5
PHRM9102
Advanced Pharmacy Practice Experience (APPE) II: Institutional....5
PHRM9103
Advanced Pharmacy Practice Experience (APPE) III: Ambulatory Care....5
PHRM9104
Advanced Pharmacy Practice Experience (APPE) IV: Acute Care....5
PHRM9201
Advanced Pharmacy Practice Experience (APPE) V: Elective – Community Practice I....5
PHRM9203
Advanced Pharmacy Practice Experience (APPE) V: Elective – Ambulatory Care I....5

Credits

PHRM9205
Advanced Pharmacy Practice Experience (APPE) V: Elective – Community Compounding I....5
PHRM9207
Advanced Pharmacy Practice Experience (APPE) V: Elective – Medication Therapy Management I....5
PHRM9209
Advanced Pharmacy Practice Experience (APPE) V: Elective – HIV/AIDS I....5
PHRM9211
Advanced Pharmacy Practice Experience (APPE) V: Elective – Home Infusion I....5
PHRM9301
Advanced Pharmacy Practice Experience (APPE) VI: Elective – Hospital Practice I....5
PHRM9303
Advanced Pharmacy Practice Experience (APPE) VI: Elective – Acute Care I....5
PHRM9305
Advanced Pharmacy Practice Experience (APPE) VI: Elective – Long Term Care I....5
PHRM9307
Advanced Pharmacy Practice Experience (APPE) VI: Elective – Infectious Disease I....5
PHRM9309
Advanced Pharmacy Practice Experience (APPE) VI: Elective – Oncology I....5
PHRM9311
Advanced Pharmacy Practice Experience (APPE) VI: Elective – Critical Care I....5
PHRM9313
Advanced Pharmacy Practice Experience (APPE) VI: Elective – Cardiology I....5
PHRM9315
Advanced Pharmacy Practice Experience (APPE) VI: Elective – Behavioral Health I....5
PHRM9401
Advanced Pharmacy Practice Experience (APPE) VII: Elective – Drug Information I....5
PHRM9403
Advanced Pharmacy Practice Experience (APPE) VII: Elective – Medication Safety I....5

Credits

PHRM9405
Advanced Pharmacy Practice Experience (APPE) VII: Elective – Managed Care I.....5
PHRM9407
Advanced Pharmacy Practice Experience (APPE) VII: Elective – Specialty Pharmacy I.....5
PHRM9409
Advanced Pharmacy Practice Experience (APPE) VII: Elective – Medical Device/Patient Safety I..... 5
PHRM9501
Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Public Health I.....5
PHRM9503
Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Industry I.....5
PHRM9505
Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Research I.....5
PHRM9507
Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Marketing I.....5
PHRM9509
Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Patient Advocacy I.....5
PHRM9511
Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Health Care Organization Management I.....5
PHRM9513
Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Informatics I.....5
PHRM9515
Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Management I.....5
PHRM9517
Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Regulatory I.....5
PHRM9900
Pharmacy Capstone I..... 1
PHRM9901
Pharmacy Capstone II..... 2

Florham Campus

*B.S. in Chemistry and Doctor of Pharmacy Combined Degree**

1st Semester Credits

BIOL1201, BIOL1211
Biological Diversity.....4
BIOL1203
Lab: Biological Diversity.....0
CHEM1201, CHEM1211
General Chemistry I.....3
CHEM1203
General Chemistry Laboratory I.....1
ENGW1101
College Writing Workshop.....3
MATH1203
Calculus I.....4
UNIV1001
Transitioning to University Life..... 1
Total.....16

2nd Semester

BIOL1202, BIOL1212
Introduction to Molecules, Cells and Genes.....4
BIOL1204
Introduction to Molecules, Cells and Genes Lab.....0
CHEM1202, CHEM1212
General Chemistry II.....3
CHEM1204
General Chemistry Laboratory II.....1
ENGW1102
Research Writing Workshop.....3
MATH2202
Calculus II.....4
Total.....15

3rd Semester

BIOL1205
Anatomy and Physiology I.....4
BIOL1207
Lab: Anatomy and Physiology I.....0
CHEM2214
Basic Inorganic Chemistry..... 4
CHEM2213
Lab: Basic Inorganic Chemistry..... 0
CHEM2261, CHEM2265
Organic Chemistry I.....3
CHEM2263
Organic Chemistry Laboratory I.....3
PHYS2003, PHYS2023
General Physics with Calculus I.....4
PHYS2013
Lab: General Physics with Calculus I.....0
Total.....16

**This is not American Chemical Society (ACS) certified.*

4th Semester Credits

BIOL1206
Anatomy and Physiology II.....4
BIOL1208
Lab: Anatomy and Physiology II.....0
CHEM2262, CHEM2266
Organic Chemistry II..... 3
CHEM2264
Lab: Organic Chemistry II.....1
MATH1133
Applied Statistics.....3
PHYS2004, PHYS2024
General Physics with Calculus II.....4
PHYS2014
Lab: General Physics with Calculus II....0
Total.....15

5th Semester

CHEM3241, CHEM3245
Physical Chemistry I..... 3
CHEM3243
Lab: Physical Chemistry..... 2
CHEM3281
Biochemistry I.....3
CHEM338
Biochemistry Laboratory.....1
UNIV1002
Preparing for Professional Life..... 1
Language Course..... 4
Total.....14

6th Semester

CHEM2221
Analytical Chemistry.....4
CHEM2223
Lab: Analytical Chemistry..... 0
CHEM3242, CHEM3246
Physical Chemistry II.....3
CHEM3244
Physical Chemistry Laboratory II.....2
ECON2001
Introduction to Microeconomics.....3
SPCH1107
Fundamentals of Speech..... 3
Textual and Aesthetic Analysis.....3
Total.....18

Combined Degree Programs

B.S. in Chemistry/Doctor of Pharmacy

7th Semester Credits

PHRM6100
Foundations in Pharmaceutical Science: Pharmacology, Medicinal Chemistry, Pharmacokinetics.....4
PHRM6101
Foundations in Integrated Pharmacotherapy I: An Introduction to Pathophysiology, Genetics, Microbiology and Delivery of Care.....3
PHRM6201
Pharmaceutics I: Physical Pharmacy..... 3
PHRM6211
Pharmaceutical Calculations I..... 1
PHRM6301
Medical Communication and Technical Writing.....2
PHRM6321
Pharmacy Practice Law.....2
PHRM6401
Professional Pharmacy Practice I: Health Care Delivery.....3
PHRM6700
Beyond the Curriculum: Foundations in Pharmacy Education (1).....0

Total.....18

8th Semester

PHRM6102
Integrated Pharmacotherapy II: Gastrointestinal.....3
PHRM6103
Integrated Pharmacotherapy III: Dermatology, Over-the-Counter Remedies and Self Care..... 3
PHRM6104
Integrated Pharmacotherapy IV: Cardiology/Pulmonary I..... 3
PHRM6111
Integrated Pharmacotherapy II–IV: Conceptual Connections and Patient Care..... 2
PHRM6202
Pharmaceutics II – Oral Dosage Forms and Biopharmaceutics/ Pharmacokinetics.....2
PHRM6212
Pharmaceutical Calculations II.....1
PHRM6402
Professional Pharmacy Practice II: Communication in Health Care.....2
PHRM6701
Beyond the Curriculum: Foundations in Pharmacy Education (2).....1

Total.....17

School of Pharmacy and Health Sciences Courses for All Undergraduate Majors Years 5 through 7

Credits

PHRM6501
Introductory Pharmacy Practice Experience (IPPE) I: Community.....4
PHRM7105
Integrated Pharmacotherapy V: Neurology, Psychiatry and Anesthesiology.....4
PHRM7106
Integrated Pharmacotherapy VI: Infectious Disease.....4
PHRM7107
Integrated Pharmacotherapy VII: Cardiology/Pulmonary II..... 4
PHRM7108
Integrated Pharmacotherapy VIII: Endocrine, Urinary Tract, Renal and Reproductive Health.....4
PHRM7111
Integrated Pharmacotherapy V–VI: Conceptual Connections and Patient Care.....2
PHRM7112
Integrated Pharmacotherapy VII–VIII: Conceptual Connections and Patient Care.....2
PHRM7201
Pharmaceutics III: Dosage Forms and Drug Delivery Systems.....2
PHRM7202
Pharmaceutics IV: Sterile Products and Biopharmaceuticals.....2
PHRM7301
Biostatistics.....2
PHRM7302
Epidemiology and Study Design Evaluation.....3
PHRM7401
Professional Pharmacy Practice III: Drug Information, Informatics and Toxicology.....2
PHRM7501
Introductory Pharmacy Practice Experience (IPPE) II: Institutional....3
PHRM7700
Beyond the Curriculum: Expanding Horizons (1).....0
PHRM7701
Beyond the Curriculum: Expanding Horizons (2)..... 1

Credits

PHRM8109
Integrated Pharmacotherapy IX: Autoimmune Diseases, Rare Diseases and Special Populations.....3
PHRM8110
Integrated Pharmacotherapy X: Hematology and Oncology.....3
PHRM8111
Integrated Pharmacotherapy IX–X: Conceptual Connections and Patient Care..... 2
PHRM8112
Integrated Pharmacotherapy I–X: A Whole System Overview and Effecting Patient Care.....2
PHRM8201
Pharmacogenomics and Personalized Medicine..... 2
PHRM8301
Pharmacoepidemiology, Pharmacoeconomics and Health Outcomes.....3
PHRM8302
Public Health and the Global Mission of Pharmacy.....2
PHRM8321
Health Care Ethics and Team Decision Making.....1
PHRM8402
Professional Pharmacy Practice IV: Pharmacy Leadership and Management..... 2
PHRM8700
Beyond the Curriculum/ Preparing Practitioners (1).....0
PHRM8701
Beyond the Curriculum/ Preparing Practitioners (2).....1
PHRM9101
Advanced Pharmacy Practice Experience (APPE) I: Community.....5
PHRM9102
Advanced Pharmacy Practice Experience (APPE) II: Institutional...5
PHRM9103
Advanced Pharmacy Practice Experience (APPE) III: Ambulatory Care.....5
PHRM9104
Advanced Pharmacy Practice Experience (APPE) IV: Acute Care...5
PHRM9201
Advanced Pharmacy Practice Experience (APPE) V: Elective – Community Practice I..... 5

	Credits
PHRM9203 Advanced Pharmacy Practice Experience (APPE) V: Elective – Ambulatory Care I	5
PHRM9205 Advanced Pharmacy Practice Experience (APPE) V: Elective – Community Compounding I	5
PHRM9207 Advanced Pharmacy Practice Experience (APPE) V: Elective – Medication Therapy Management I	5
PHRM9209 Advanced Pharmacy Practice Experience (APPE) V: Elective – HIV/AIDS I	5
PHRM9211 Advanced Pharmacy Practice Experience (APPE) V: Elective – Home Infusion I	5
PHRM9301 Advanced Pharmacy Practice Experience (APPE) VI: Elective – Hospital Practice I	5
PHRM9303 Advanced Pharmacy Practice Experience (APPE) VI: Elective – Acute Care I	5
PHRM9305 Advanced Pharmacy Practice Experience (APPE) VI: Elective – Long Term Care I	5
PHRM9307 Advanced Pharmacy Practice Experience (APPE) VI: Elective – Infectious Disease I	5
PHRM9309 Advanced Pharmacy Practice Experience (APPE) VI: Elective – Oncology I	5
PHRM9311 Advanced Pharmacy Practice Experience (APPE) VI: Elective – Critical Care I	5
PHRM9313 Advanced Pharmacy Practice Experience (APPE) VI: Elective – Cardiology I	5
PHRM9315 Advanced Pharmacy Practice Experience (APPE) VI: Elective – Behavioral Health I	5
PHRM9401 Advanced Pharmacy Practice Experience (APPE) VII: Elective – Drug Information I	5
PHRM9403 Advanced Pharmacy Practice Experience (APPE) VII: Elective – Medication Safety I	5
PHRM9405 Advanced Pharmacy Practice Experience (APPE) VII: Elective – Managed Care I	5
PHRM9407 Advanced Pharmacy Practice Experience (APPE) VII: Elective – Specialty Pharmacy I	5
PHRM9409 Advanced Pharmacy Practice Experience (APPE) VII: Elective – Medical Device/Patient Safety I	5
PHRM9501 Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Public Health I	5
PHRM9503 Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Industry I	5
PHRM9505 Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Research I	5
PHRM9507 Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Marketing I	5
PHRM9509 Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Patient Advocacy I	5
PHRM9511 Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Health Care Organization Management I	5
PHRM9513 Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Informatics I	5
PHRM9515 Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Management I	5
PHRM9517 Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Regulatory I	5
PHRM9900 Pharmacy Capstone I	1
PHRM9901 Pharmacy Capstone II	2