

Program Drop Proposal

Chemistry-Optometry Program (3+4)

3+4 Chemistry – Optometry Program

This is a new program option for a Chemistry degree that would enable students to earn a BA in Chemistry in 3 years (likely requiring that some courses be taken over the summer semesters) and an Optometry degree in 4 years.

1st Semester (15)

CHEM 1111	Introductory Chemistry I (MOTR CHEM 1111)	5
BIOL 1821	Introductory Biology: Organisms and the Environment (MOTR BIOL 150L)	5
MATH 1800	Analytic Geometry and Calculus I	5
Total Hours		15

2nd Semester (18)

CHEM 1121	Introductory Chemistry II	5
BIOL 1831	Introductory Biology: From Molecules to Organisms (MOTR BIOL 150L)	5
MATH 1900	Analytic Geometry and Calculus II	5
PSYCH 1003	General Psychology (MOTR PSYC 100) ¹	3
Total Hours		18

Summer Option

Summer Semester (3-8)

CHEM 2612	Organic Chemistry I	3
CHEM 2622	Organic Chemistry II	3
CHEM 2633	Organic Chemistry Laboratory	2
Or General Education Courses ²		
Total Hours		8

3rd Semester (13+)

MATH 2000	Analytic Geometry and Calculus III	5
PHYSICS 2111	Physics: Mechanics and Heat	5
CHEM 2612	Organic Chemistry I ³	3
General Education Courses ²		
Total Hours		13

4th Semester (15)

PHYSICS 2112	Physics: Electricity, Magnetism, and Optics	5
CHEM 2223	Quantitative Analysis in Chemistry	3
CHEM 3412	Basic Inorganic Chemistry	2
CHEM 2622	Organic Chemistry II ³	3
CHEM 2633	Organic Chemistry Laboratory ³	2

Total Hours	15
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Summer Option

Summer Semester (3-8)

CHEM 2612	Organic Chemistry I	3
CHEM 2622	Organic Chemistry II	3
CHEM 2633	Organic Chemistry Laboratory	2
Or General Education Courses ²		
Total Hours		8

5th Semester (13+)

CHEM 3022	Introduction to Chemical Literature	1
CHEM 3312	Physical Chemistry I: Thermodynamics and Kinetics	3
CHEM 4712	Biochemistry ⁴	3
CHEM 4733	Biochemistry Laboratory ⁴	2
PSYCH 2201	Psychological Statistics ¹	4
General Education Course ²		
Total Hours		13

6th Semester (11+1)

CHEM 3333	Physical Chemistry Laboratory I	2
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CHEM 3322	Physical Chemistry II: Quantum Chemistry and Spectroscopy	3
CHEM 4897	Seminar in Chemistry	1
BIOL 2482	Microbiology ¹	3
BIOL 2483	Microbiology Laboratory ¹	2
General Education Courses ²		
Total Hours		11

Summer Option

Summer Semester

General Education Courses ¹		
Total Hours		0

The basis for this 3+4 program is that students are required to do the courses (and the prerequisites) for the Chemistry Bachelor of Arts degree with the exception that students can substitute Optometry's Physical Optics and Photometry course (OPTOM 8140) for the advanced laboratory which is required for the B.A. in chemistry degree; additionally CHEM 3322 (Physical Chemistry II and CHEM 4897 (Seminar) can be completed in the first year of enrollment in the Optometry program though this is NOT recommended because students in the Optometry program take more than 20 credit hours each semester. In order to complete the chemistry program in 3 years, it is likely that some courses would need to be taken over the summer sessions (between semester 2 and 3 and between semester 4 and 5). Three chemistry classes that also are offered over the summer are suggested as options in the above schedule. These are quite compacted classes so it is not generally advised as the best option. If that summer option is chosen for those chemistry classes, however, some of the required General Education courses can be taken during the regular (3rd and 4th) semesters in place of the chemistry classes (CHEM 2612,

CHEM 2622, CHEM 2633) that also are scheduled for the 3rd and 4th semester. Alternatively, General Education courses can be taken in the summer.

- ¹ The College of Optometry requires two courses in English [e.g., Freshman Composition (ENGL 1100), junior English courses (e.g., ENGL 3160, ENGL 3100)] which is also a General Education requirement, two courses in Psychology, two Liberal Arts courses, a Statistics course, and a course in Microbiology with Lab. If Psychological Statistics (PSYCH 2201, 4 credits) is taken as the second Psychology course, that also satisfies the Statistics course requirement. One of the courses suggested in psychology (General Psychology, PSYCH 1003) also satisfies one of the three-course requirement in Social and Behavioral Sciences Knowledge (see not below on General Education courses).
- ² General Education courses [(1) Communicating Skills (two 3 credit courses), (2) Managing Information Skills (one 3-credit course), (3) Valuing Skill (one 3-credit course), (4) Social and Behavioral Science Knowledge (three 3-credit courses) (5) Humanities and Fine Arts Knowledge (three 3-credit courses), and (6) Mathematics and Life/Natural Sciences Knowledge (four 3-credit courses)] and Foreign Language courses (required for the Chemistry B.A. degree) are not listed specifically here. The requirements for Skill Goal 2 and Knowledge Goal 6 would be fulfilled by completing courses in the program listed above.
- ³ CHEM 2612, CHEM 2622, and CHEM 2633 are courses offered during the summer; currently, CHEM 2223 is not.
- ⁴ The College of Optometry strongly recommends a course in Anatomy or Physiology and a course in Biochemistry. BIOL 1102 satisfies the Anatomy or Physiology requirement but this course is not included in the schedule listed above. Another course recommended by the College of Optometry is Cell Biology (BIOL 3622, Cell Biology, 3 credits)- this is not listed above either.

Gaining admission to Missouri's College of Optometry is a competitive process. Students selecting this 3+4 option should seek an initial interview with the Manager, Student and Special Services (and the Pre-Optometry Advisor) in the UMSL College of Optometry to insure that all prerequisites for the College of Optometry will be completed. In August following the completion of their second year of this 3+4 program, students may apply formally to the UMSL College of Optometry and arrange to take the Optometry Admissions Test (OAT) early in the fall of their third year. The OAT is offered through computer sites and may be scheduled almost at any time. After receipt of a completed application in the Fall Semester of

the candidate's third year and depending on the OAT outcome, the applicant may be invited for a formal interview in the College of Optometry. Following the formal interview, candidates with a 3.0 or better grade point average in the science prerequisites for optometry and a score of 310 or better in the OAT exam may be accepted into the UMSL College of Optometry.

Sign-offs from other departments affected by this proposal

None

Rationale Department dropping this option due to lack of graduates from the program.

