FRENCH IEP – CHEMICAL ENGINEERING– Pharmaceutical Track

For students entering Fall 2010 (Class of 2015)

The academic plan below is a sample to demonstrate one way the dual degree program may be completed in 10 semesters. It is not meant to be a replacement for academic advising. Be sure to touch base with both your language and engineering advisor regularly.

	FALL			SPRING	
Year One	✓ Course	Cr	✓	Course	Cr
	CHM 101 General Chemistry I Lecture	3		BIO 101 Principles of Biology I	4
	CHM 102 General Chemistry I Lab	1		CHM 112 General Chemistry II Lecture	3
	EGR 105 Foundations of Engineering I	1		CHM 114 General Chemistry II Lab	1
	FRN*	3		EGR 106 Foundations of Engineering II	2
	MTH 141 Intro to Calculus w/ Analytic Geo	4		FRN*	3
	PHY 203 Elementary Physics I Lecture	3		MTH 142 Intermediate Calc w/ Analytic Geo	4
	PHY 273 Elementary Physics I Lab	1			
	Semester Credits	**16**		**Semester Credits**	**17**
	FALL			**SPRING**	
Year Two	✓ Course	Cr	✓	Course	Cr
	CHE 212 Chemical Process Calculations	3		BCH 311 Intro Biochemistry	3
	CHM 227 Organic Chemistry I Lecture	3		CHE 272 Intro to CHE Calculations	3
	ECN 201** Principles of Microeconomics (S)	3		CHE 313 Chem Engineering Thermo I	3
	General Education Requirement (ECw)	3		CHE 332 Physical Metallurgy	3
	FRN*	3		FRN*	3
	MTH 243 Calculus for Func. of Sev. Variables	3		MTH 244 Differential Equations **or** MTH 362 Advanced Engineering Mathematics I	3
	Semester Credits	**18**		**Semester Credits**	**18**
	FALL			**SPRING**	
Year Three	✓ Course	Cr	✓	Course	Cr
	BPS 301 Dosage Forms I	2		BIO 341 Cell Biology	3
	BPS 303 Dosage Forms II	2		CHE 348 Transfer Operations II	3
	BPS 305 Dosage Forms III	2		CHE 464 Industrial Reaction Kinetics	3
	CHE 314 Chem Engineering Thermo II	3		FRN*	3
	CHE 347 Transfer Operations I	3		General Education Requirement	3
	FRN*	3		MIC 211 Introductory Biology	4
	PHY 204 Elementary Physics II	3			
	PHY 274 Elementary Physics II Lab	1			
	Semester Credits	**19**		**Semester Credits**	**19**
	Suggested Semester Abroad			**International Internship Semester**	
Year Four	✓ Course	Cr	✓	Course	Cr
	Approved Professional Elective	3			
	FRN*	3		Internship in French-Speaking Country	
	General Education Requirement	3		FRN 315-316	3 to 6
	General Education Requirement	3			
	General Education Requirement	3			
	Semester Credits	**15**		**Semester Credits**	**3 to 6**
	FALL			**SPRING**	
Year Five	✓ Course	Cr	✓	Course	Cr
	CHE 574 Biochemical Engineering	3		CHE 346 Chemical Engineering Lab II	2
	CHE 328 Industrial Plants	1		CHE 352 Plant Design and Economics II	3
	CHE 345 Chemical Engineering Lab I	2		CHE 548*** Separations for Biotechnology	3
	CHE 349 Transfer Operations III	2		BPS 425 Current Good Mfg Processes	3
	CHE 351 Plant Design and Economics I	3		FRN 4xx (422 if available)	3
	CHE 425 Process Dynamics and Control	3		General Education Requirement	3
	FRN 4xx (412, 473, or 474) (A)	3			
	Semester Credits	**17**		**Semester Credits**	**17**

* French course varies depending upon student's background. Consult with Dr. Lars Erickson.
** Or General Education elective
*** Or approved Professional Elective
GEN ED TALLY (See special notes about General Education Requirements on the reverse and consult with the university catalog and your major advisors.)

☐ EC: _____ ☐ S: _____
☐ ECw: _____ ☐ S (use ECN 201): _____
☐ L: _____ ☐ A (400-level French Lit.): _____
☐ L: _____ ☐ A (fine art): _____

BASIC LIBERAL STUDIES (GEN ED) REQUIREMENTS (See course catalog for more detail.)

English Communications (EC): 6 credits, one of which must be a writing course (ECw.)

Social Science (S): 6 credits, one of which is fulfilled by ECN 201, which is already required for CHE majors. Consider opting for a second course with a global focus, or a focus on France or Europe.

Letters (L): 6 credits. Consider taking a French or European History class to fulfill one of your two general education Letters requirements.

Fine Arts and Literature (A):

1. **3 credits of literature**: As an IEP student the 400-level French literature course fulfills the literature portion of the Fine Arts & Literature requirement. (NOTE: This is a special exemption. If you later drop the program but keep your language major you might need to take an additional literature course.)
2. **3 credits of fine arts:** You must choose from music, theater, arts selections as indicated in catalog, or seek prior-approval for a comparable course abroad.

Note: There are additional General Education Requirements in ***Mathematical and Quantitative Reasoning***, ***Natural Sciences***, and ***Foreign Language/Cross-Cultural Competence,*** which are fulfilled automatically through your progress toward your two degrees (B.S. in Engineering and B.A. in a Language).

REQUIREMENTS FOR CHEMICAL ENGINEERING—PHARMACEUTICAL TRACK MAJOR (See course catalog and department website for more detail.)

BCH 311; BIO 101, 341; BPS 301, 303, 305, 425; CHE 212, 272, 313, 314, 328, 332, 345, 346, 347, 348, 349, 351, 352, 425, 464, 574, 548; CHM 101, 102, 112, 114, 227; ECN 201; EGR 105, 106; MTH 141, 142, 243, 244 or 362; PHY 203, 204, 273, 274; One approved professional elective (EGR/FRN 422 may be used with prior approval).

REQUIREMENTS FOR IEP FRENCH MAJOR (See course catalog for more detail.)

At least 30 credits in French, not including FRN 101, 102, 391, 392, 393. You must complete at least six credits at the 400-level, three credits of which must come from FRN 412, 473, or 474.

SPECIAL NOTES FOR STUDENTS IN THE INTERNATIONAL ENGINEERING PROGRAM

- As a dual degree IEP student, **you are a student of both the College and Arts & Sciences and the College of Engineering**. Be sure to file for graduation (and any other paperwork such as a leave of absence, etc.) with the dean's office of each college.
- You have two academic advisors – one for your language major and one for your engineering major. The French advisor for all IEP students is Dr. Lars Erickson (lars@uri.edu). You can check with your engineering department to find out who has been assigned as your engineering advisor.
- **Your general education requirements are determined by the College of Arts & Sciences Basic Liberal Studies Program for the Bachelor of Arts (not B.S.).** Consult the course catalog for details and verify any general education questions with your language advisor.
- As an IEP student, **you are exempt from the *one-course-per-discipline* rule** for the Letters, Natural Sciences, and Social Sciences Basic Liberal Studies Requirements of the College of Arts & Sciences. This is important to know in the event that you drop the program but still want to pursue your French major as a non-IEP student.
- You are required to complete a six-month professional internship abroad to be considered an IEP student.
- **It is highly recommended that you precede your semester internship with a semester of study abroad through an IEP exchange.** General education requirements, language major courses, free electives and engineering professional electives tend to be the easiest courses to find equivalents for overseas, so you might want to "hold" them for a semester abroad. Consult with your advisors and plan your semesters accordingly.

- ***It is <u>YOUR</u> responsibility to stay in contact with your engineering major advisor AND your language major advisor to make sure that you are fulfilling all requirements for both majors and your general education requirements!***