GERMAN IEP – CHEMICAL ENGINEERING – Biology Track

For students entering Fall 2011 (Class of 2016)

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	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
	GER 101 German for Engineers I	3		EGR 106 Foundations of Engineering II	2
	MTH 141 Intro to Calculus w/ Analytic Geometry	4		GER 102 German for Engineers II	3
	PHY 203 Elementary Physics I Lecture	3		MTH 142 Intermediate Calc w/ Analytic Geometry	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 **or** BIO 341 Intro Biochem **or** Cell Bio	3
	CHM 227 Organic Chemistry	3		CHE 272 Intro to Chemical Engineering Calculations	3
	ECN 201 Principles of Microeconomics (S)	3		CHE 313 Chemical Engineering Thermodynamics I	3
	General Education Requirement (ECw)	3		CHE 332 Physical Metallurgy	3
	GER 103 Intermediate German I	3		GER 104 Intermediate German II	3
	MTH 243 Multivariable Calculus	3		MTH 244 **or** 362 Differential Equations **or** Advanced Engineering Mathematics I	3
	Semester Credits	**18**		**Semester Credits**	**18**
	FALL			**SPRING**	
Year Three	✓ Course	Cr	✓	Course	Cr
	BIO 341 **or** BCH 311Cell Bio **or** Intro Biochem	3		BIO 352 General Genetics	4
	CHE 314 Chemical Engineering Thermodynamics II	3		CHE 348 Transfer Operations II	3
	CHE 347 Transfer Operations I	3		CHE 464 Industrial Reaction Kinetics	3
	General Education Requirement	3		GER 206 Conversation & Composition II	3
	GER 205 Conversation & Composition I	3		MIC 211 Introductory Microbiology	4
	PHY 204 Elementary Physics II	3			
	PHY 274 Elementary Physics II Lab	1			
	Semester Credits	**19**		**Semester Credits**	**17**
	Suggested Semester Abroad			**International Internship Semester**	
Year Four	✓ Course	Cr	✓	Course	Cr
	Approved Mathematics Elective	3		Internship in German-Speaking Country	
	EGR/GER 411	3		GER 315-316	3 to 6
	General Education Requirement (one must be L)	3 to 6			
	GER 3xx	4			
	Semester Credits	**13 to 16**		**Semester Credits**	**3 to 6**
	FALL			**SPRING**	
Year Five	✓ Course	Cr	✓	Course	Cr
	CHE 328 Industrial Plants	1		BIO 437 Chemical Engineering Lab II	3
	CHE 345 Chemical Engineering Lab I	2		CHE 346 Chemical Engineering Lab II	2
	CHE 349 Transfer Operations III	2		CHE 352 Plant Design & Economics II	3
	CHE 351 Plant Design and Economics I	3		General Education Requirement	3
	CHE 425 Process Dynamics and Control	3		GER 4xx German Literature (A)	3
	GER 4xx	3		General Education Requirement	3
	General Education Requirement	3			
	Semester Credits	**17**		**Semester Credits**	**17**

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 (reserve one for TUBS): _____ ☐ A (400-level German 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). Can only take one of the following 100-level writing courses for General Education credit: **WRT** 104, **WRT** 105, **WRT** 106 (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 Germany or Europe.

Letters (L): 6 credits. "Landeskunde" (LET 151) in Braunschweig will fulfill one of your two general education Letters requirements. Consider taking a German History class (HIS 327 at URI or in Braunschweig) to fulfill the other.

Fine Arts and Literature (A):

1. **3 credits of literature**: As an IEP student the 400-level German 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-BIOLOGY TRACK MAJOR (See course catalog and department website for more detail.)

BCH 311; BIO 101, 341, 352, 437; CHE 212, 272, 313, 314, 328, 332, 345, 346, 347, 348, 349, 351, 352, 425 464; CHM 101, 102, 112, 114, 227; ECN 201; EGR 105, 106; MIC 211; MTH 141, 142, 243, 244 or 362; PHY 203, 273, 204, 274; One approved mathematics elective (**MTH** 215 or any 300-500 level **MTH** course ***except*** **MTH** 381).

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

At least 30 credits in German, not including GER 101, 102, or 392. You must complete six credits in literature, at least three of which must be taken at the 400-level; and EGR/GER 411.

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 German advisor for all IEP students is Walter von Reinhart (waltaire@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 German 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, engineering professional electives and free electives (if you have any) 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 YOUR 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!***