

Joint Dual Degree Programs

- 3+2 B.S. chemistry (NCCU)/M.S. packaging (MSU)

In the 3+2 B.S. chemistry (NCCU)/M.S. packaging (MSU) joint degree program, students spend their first three years at NCCU completing most of the requirements for their B.S. degree in chemistry and they spend two years at Michigan State University to complete their final year for the B.S. degree and the first year of their M.S. degree. The second year at MSU will be used to complete their M.S. Degree program in packaging.

Years one-three at NCCU (including year four of MS option A –Thesis)

Three-Year Curriculum Plan in: BACHELOR OF SCIENCE DEGREE IN CHEMISTRY, ACS CERTIFIED

Freshman Year (NCCU)		Fall		Spring			
Course Prefix/Number		Course Title	Credit	Course Prefix/Number		Course Title	Credit
*CHEM	1100	Gen. Chem. I	4	+CHEM	1200	Gen. Chem. II	4
*=MATH	2010	Calc & Anal Geom. I	4	*=MATH	2020	Calc & Anal Geom. II	4
*ENG	1110	English Composition I	3	*ENG	1210	English Composition II	3
*UNIV	1100	First year seminar	2	=PHYS	2305	Gen. Phys. For Sci & Eng I	3
*PEDU	1541	Fitness	2	=PHYS	2410	Lab I	1
*HEDU	1531	Health	2				
Total			17	Total			15

Sophomore Year (NCCU)		Fall		Spring			
Course Prefix/Number		Course Title	Credit	Course Prefix/Number		Course Title	Credit
+CHEM	3100	Org. Chem. I	3	+CHEM	3120	Org. Chem. II	3
+CHEM	3330	Org. Chem. Lab I	1	+CHEM	3340	Org. Chem. Lab. II	1
+CHEM	2020	Quant. Analysis	4	+CHEM	4400	Instrumental Analysis	4
=PHYS	2310	Gen. Phys.II	3	*HIST	1320	World Societies	3
=PHYS	2420	Lab I or II	1	*MFL II		Modern Foreign Language II	3
+CHEM	3200	Inorganic Chemistry	4	*MSCM	1250	Elem. Of Speech (SI)	3
Total			16	Total			17

Junior Year (NCCU)		Fall		Spring			
Course Prefix/Number		Course Title	Credit	Course Prefix/Number		Course Title	Credit
+CHEM	4010	Phys. Chem. I	4	+CHEM	4020	Phys. Chem. II	4
+CHEM	4900	Applied Math	2	*HUM	2410 or 2420	Arts & Humanities I or II	3
#		General Elective	3	&CHEM		Advanced Elective	3
*BIOL	1202	Prin of Biol. Molecules and cells	4	+CHEM	4800 (WI)	Chem. Res. Literature	3
CHEM	4500	Biochemistry I	3	*SOSC		GEC Requirement	3
CHEM	4520	Biochemistry I Lab	1				
Total			17	Total			16

Year Four MSU		Fall		Spring			
Course Prefix/Number		Course Title	Credit	Course Prefix/Number		Course Title	Credit
PKG	801	Packaging Materials	4	PKG	803	Packaging Distribution & Dynamics	2
PKG	860	Research Methods	3	PKG	455	Food Packaging	4
STT	464	Statistics for Biologists Or similar	3	PKG	815 or 805	Permeability and Shelf Life or Advanced Packaging Dynamics	3

PKG	899	Master's Thesis Research: Project Development - Identification of Research topic and initiate Literature research	1-3		PKG	804	Packaging Processes	2
PKG	490 or 890	Directed Studies or Independent Study	1-2		PKG	899	Master's Thesis Research: Project Development – Complete Literature review and develop proposal	2
Identify the guidance and mentoring committee. Meet with the committee by the end of the term				Needs approval from the mentoring committee. Meet during the second half of the term.				
Total credits			12-14	Total credits			13	

Notes: 95 credits to be completed at NCCU and 25 credit hours to be completed at MSU.

Courses to be transferred from MSU and their equivalents at NCCU

MSU course to be transferred		NCCU course equivalent		
PKG 801 Packaging Materials	4	CHEM 4920 Senior Honors Seminar	2	Senior Year
PKG 860 Research Methods	3	PHIL 2210 Ethics	3	Senior Year
STT 464 Statistic for Biologists (or similar)	3	Elective	2	Senior Year
PKG 803 Packaging Distribution & Dynamics	2	Advanced CHEM Elective	3	Senior Year
PKG 455 Food Packaging	4	Advanced CHEM Elective	4	Senior Year
PKG 825 Polymeric Packaging Materials or PKG 899 Master's Research or PKG 490 Directed Studies or PKG 890 Independent Study	4	CHEM 4700 Research	3	Senior Year
PKG 815 Permeability and Shelf Life	3	BIOL Elective	3	Senior Year
PKG 804 Packaging Processes	2	Advanced CHEM Elective	3	Senior Year