

**EASTERN MICHIGAN UNIVERSITY
ARTICULATION GUIDE**

September 2009

**Delta College – Associate in Applied Science in Chemical Technology
Eastern Michigan University – Bachelor of Science in Polymers & Coatings**

Delta College

Eastern Michigan University

MACRAO Requirements	(30-32 credits)	(30-32 credits)	
1. English Writing Requirement (6 credits)		(6 credits)	
ENG 111 College Composition I	3	ENGL 120 English Composition I	3
ENG 112 College Composition II	3	ENGL 121 English Composition II	3
2. Math/Science Requirement (8 credits)		(8 credits)	
¹ MTH 151 Pre-Calculus Mathematics (Complete at Delta)	4	MATH 112 Topics in Precalculus Math (sub for <u>MATH 107</u>).....	4
Complete one course:	4-5	One course:	4-5
PHY 111 General Physics I (4)		PHY 221 Mechanics, Sound and Heat (4)	
PHY 211 Physics I (5)		PHY 223 Mechanics and Sound (5)	
3. Humanities Requirement (select from 2 areas) (8-9 credits)		(8-9 credits)	
<i>Courses must be completed in at least two subject areas.</i>			
Complete one course: (Delta Graduation Requirement)	3	One course: (University Elective)	3
SPH 112 or SPH 114		CTAS 124 or CTAC 227	
Complete two courses (See NOTE below)	5-6	Two courses	5-6
Choose courses approved by Delta to satisfy the MACRAO humanities requirement.		Course may transfer as an equivalent course or as General Education transfer credit, or general transfer credit	
4. Social Science Requirement (8-9 credits)		(8-9 credits)	
<i>Courses must be completed in at least two subject areas.</i>			
Complete one course: (Delta Graduation Requirement)	3-4	One course:	3-4
POL 103, 104, 111, 212, 215, 220, 221, 223, 225, or 228		Courses may transfer as general transfer credit.	
Complete one or two courses (See NOTE below)	4-6	Two courses	4-6
Choose from courses approved by Delta to satisfy the MACRAO social science requirement. Must be from 2 subject areas.		Courses may transfer as equivalent courses, General Education transfer credit, or general transfer credit.	
NOTE: In completing the Humanities or Social Science Requirement, choose one course from the following to satisfy EMU's Perspectives on a Diverse World requirement: Humanities: IHU 280, 281; LIT 228, 229, 260, 269, 274, 277, 278, 285; MUS 120; or SPH 245; Social Science: GEO 113; HIS 214, 215, 217; IHU 202; POL 221, 241; SOC 215, 216, 231, 265; SSI 234; SSI 288, 289			
Delta Program Requirements	(36-37 credits)	(36-37 credits)	
** CT 100 Introduction to Chemical Technology	2	CHEM 000 General Transfer Credit (Res Elective)	2
* CHM 111 General & Inorganic Chemistry I	4	CHEM 121/122 General Chemistry I & Lab	4
* CHM 112 General & Inorganic Chemistry II	4	CHEM 123/124 General Chemistry II & Lab	4
* CHM 210 Organic Chemistry I	4	CHEM 371 Organic Chemistry I (3)+1	4
* CHM 220 Organic Chemistry II	4	CHEM 372 Organic Chemistry II (3)+1	4
* CHM 210L Organic Chemistry I Laboratory (1) and			
* CHM 220L Organic Chemistry II Laboratory (1)	2	CHEM 373 Organic Chemistry Laboratory	2
* CHM 230 Chemical Analysis/Instrumentation	4	CHEM 381 Instrum for Chem Tech (2)+2	4
** CHM 231 Troubleshooting for Analytical Instrumentation	1	CHEM 000 General Transfer Credit (Res Elective)	1
* PHY 112 General Physics II (or PHY 212 Physics II)	4-5	PHY 222 Electricity and Light (or PHY 224 substitution)	4-5
** SCI 250 Research Project in Science	2	CHEM 000 General Transfer Credit (Res Elective)	2
Complete one course:	3-4	One course: (University Elective)	3-4
CST 133 Comp Concepts & Competencies (4)		IS 215 End-User Computing (3)+1	
CST 134 Micro Computers in Business/MS Office (3)		BMMT 201 Microcomp for Business Applic (3)	
Lifelong Wellness Requirement	2	University Elective	2
EMU Requirements that May be Taken at Delta or EMU		(4-6 credits)	
* MTH 161 Analytic Geometry & Calculus	4	MATH 120 Calculus I	4
Open Elective (to bring total credits at Delta to 72 credits)	0-2	University Elective	0-2
Credits at Delta:	72-73	Credits that transfer to EMU	72-73

¹ Complete MTH 151 at Delta to satisfy EMU's QR requirement. If completed at EMU, MATH 110 will also be required.

* Required for EMU's Polymers & Coatings program.

** Satisfies a Restricted Elective in EMU's Polymers & Coatings program.

Note: EMU will accept substitutions for courses that transfer as general transfer credit or university electives.

**EASTERN MICHIGAN UNIVERSITY
ARTICULATION GUIDE**

September 2009

**Delta College – Associate in Applied Science in Chemical Technology
Eastern Michigan University – Bachelor of Science in Polymers & Coatings**

**Completion of the Polymers & Coatings
Program at EMU**

Major Requirements (52 credits)

Required Courses (43 credits)

CHEM 281	Quantitative Analysis.....	4
CHEM 361	Fund of Physical Chemistry.....	3
PC 203	Miniaturization in Technology.....	3
PC 260	Introduction to Coating Science & Technology.....	3
PC 310	Polymers for Engineers & Technologists.....	3
PC 370	Testing & Evaluation of Coatings.....	3
¹ PC 387	Cooperative Education in Interdisc Tech (LBC).....	3
PC 400	Polymers & Coatings Technology I.....	3
PC 401	Polymers & Coatings Technology I Lab.....	3
PC 402	Polymers & Coatings Technology II.....	3
PC 403	Polymers & Coatings Technology II Lab.....	3
PC 404	Coating Raw Materials.....	3
PC 460	Coating Formulation.....	3
SET 350W	Applied Technical Writing.....	3

Restricted Electives (9 credits)

Complete nine credits from the following.....	9
CHEM 340	Intro to Industrial Chemistry (3)
CHEM 341	Fundamentals of Material Science (3)
CHEM 415	Environmental Chemistry (3)
CHEM 478	Special Topics (2)
PC 377	Special Topics (1)
PC 378	Special Topics (2)
PC 379	Special Topics (3)
PC 416	Water-Based Coatings (3)
PC 477	Special Topics (1)
PC 478	Special Topics (2)
PC 479	Special Topics (3)
PC 499	Independent Study (3)

Credits at EMU:52

Minimum Credits to Graduate:124

Suggested Sequence for completing the program:

Complete during any semester (12 credits)

Restricted electives.....	9	
SET 350W	Applied Technical Writing.....	3

Fall Semester (13 credits)

CHEM 281	Quantitative Analysis.....	4
PC 203	Miniaturization in Technology.....	3
PC 260	Introduction to Coating Science & Technology.....	3
PC 310	Polymers for Engineers & Technologists.....	3

Winter (9 credits)

PC 370	Testing & Evaluation of Coatings.....	3
PC 404	Coating Raw Materials.....	3
PC 460	Coating Formulation.....	3

Sp/Sum Semester (3 credits)

¹ PC 387	Cooperative Education in Interdisc Tech.....	3
---------------------	--	---

Fall Semester (9 credits)

CHEM 361	Fund of Physical Chemistry.....	3
PC 400	Polymers & Coatings Technology I.....	3
PC 401	Polymers & Coatings Technology I Lab.....	3

Winter Semester (6 credits)

PC 402	Polymers & Coatings Technology II.....	3
PC 403	Polymers & Coatings Technology II Lab.....	3

¹ Meets EMU's Learning beyond the Classroom requirement.

**EASTERN MICHIGAN UNIVERSITY
ARTICULATION GUIDE**

September 2009

**Delta College – Associate in Applied Science in Chemical Technology
Eastern Michigan University – Bachelor of Science in Polymers & Coatings**

Additional Information:

1. In completing the coordinated program of study for this articulation agreement, course substitutions should be made with the guidance of the advisors (indicated below) at both institutions to assure that all requirements are satisfied. Courses indicated with an * are required for EMU's Polymers & Coatings Program.
2. Students whose transcripts are endorsed as "MACRAO Satisfied" will only be required to meet EMU's three general education requirements, noted on the articulation guide and listed below. These requirements may be completed at the most appropriate time for the student whether before or after admission to EMU:
 - a) an approved course in Quantitative Reasoning: [MTH 151 or 161 at Delta]
 - b) an approved course in Perspectives on a Diverse World: [IHU 280, 281; LIT 228, 229, 260, 269, 274, 277, 278, 285; MUS 120; or SPH 245; GEO 113; HIS 214, 215, 217; IHU 202; POL 221, 241; SOC 215, 216, 231, 265; or SSI 234, 288, 289 at Delta]
 - c) an approved Learning Beyond the Classroom course or experience offered by EMU: [LEGL 416 at EMU]*To use MACRAO, students should request a MACRAO evaluation of their transcript from the community college Student Records or Registrar's Office. Students who do not satisfy MACRAO will have to satisfy EMU's general education requirements as listed in the Undergraduate Catalog.*
3. Only courses with a grade of "C" or better (2.0 on a 4.0 scale) will be accepted for transfer to EMU.
4. Under this agreement, EMU will waive the 60-hour rule and require that a minimum of 30 credit hours must be completed in courses offered by EMU, 15 hours of which must be in program requirements at the 300-level or above. Of the last 30 hours completed before graduating, a minimum of 10 credit hours must be in courses offered by EMU. A minimum of 124 credit hours, completed in-residence or accepted in transfer, is required for graduation.
5. Students must meet all admission requirements at the time of application for admission to EMU, including submitting transcripts from all previously attended colleges. Delta students will receive equal consideration with other students for course registration and financial aid.
6. Students are encouraged to contact the Polymers & Coatings Program Coordinator early, before applying to EMU. To facilitate the evaluation of transcripts, students should bring a copy of this articulation guide to all advising sessions. Copies of the articulation guide are available on EMU's webpage at www.emich.edu/ccr/artguide.htm.

Effective Dates: September 1, 2009 until August 31, 2012. If this agreement is not renewed at the end of the effective period, students who already started the program will be given three additional years to be admitted to EMU under the terms of this agreement. Students who began this program at Delta prior to the effective date may use this agreement.

Contacts:

Delta College

Emily Clement
1961 Delta, UC 48710
989-686-9392; emilyclement@delta.edu

Eastern Michigan University

Nancy Caine Harbour, Coordinator
Polymers & Coatings Program
111 Sill Hall, 734-487-4330, nharbour@emich.edu