



Department of Theoretical and Applied Mathematics



Requirements for the 5-yr BS/MS Degree with a Major in Applied Mathematics/Polymer Engineering

www.math.uakron.edu

STUDENT NAME: _____

STUDENT ID#: _____

Undergraduate Level Course Requirements

At least 47 credit hours in the department including:

3450:221	Analytic Geometry-Calculus I	4.0	_____
3450:222	Analytic Geometry-Calculus II	4.0	_____
3450:223	Analytic Geometry-Calculus III	4.0	_____
3450:307	Fundamentals of Advanced Mathematics	3.0	_____
3450:312	Linear Algebra	3.0	_____
3450:335	Introduction to Ordinary Differential Equations	3.0	_____
*3460:209	Introduction to Computer Science	4.0	_____
3450:421	Advanced Calculus I	3.0	_____
3450:422	Advanced Calculus II	3.0	_____
3450:427	Applied Numerical Methods I	3.0	_____
3450:428	Applied Numerical Methods II	3.0	_____
3450:436	Mathematical Models	3.0	_____
3450:539	Advanced Engineering Mathematics II ***	3.0	_____
3470:461	Applied Statistics I	4.0	_____

At least 20 science credits including:

3150:151	Principles of Chemistry I	3.0	_____
3150:152	Principles of Chemistry I Lab	1.0	_____
3150:153	Principles of Chemistry II	3.0	_____
3150:154	Qualitative Analysis	2.0	_____
3150:263	Organic Chemistry I	3.0	_____
*3650:291	Elementary Classical Physics I	4.0	_____
*3650:292	Elementary Classical Physics II	4.0	_____

At least 16 engineering credits including:

4200:200	Material and Energy Balances	4.0	_____
4300:201	Statics	3.0	_____
4300:202	Introduction to Mechanics of Solids	3.0	_____
4200:321	Transport Phenomena	3.0	_____
9841:550	Engineering Properties of Polymers***	3.0	_____

Undergraduate Electives

14 hours credits from natural science division and/or engineering departments. At least 3 of these credits must be at the 300/400 level,

4200:225	Equilibrium Thermodynamics	3.0	_____
_____	_____	3.0	_____
_____	_____	3.0	_____
_____	_____	3.0	_____
_____	_____	2.0	_____

NOTES:

- The courses 3450:100, 140, 135, 145, 149, and 401 do not meet major requirements.
- The student is required to take 47 hours of 300/400 level courses not including general education courses and workshops.
- The student must achieve an overall GPA of 2.0 for all courses taken and a 2.0 GPA for courses in the major in order to graduate.
- This program of study and the general education evaluation are effective for 5 years from date of signature. If there is a change in a major or a transfer to another college, a new program of study must be drawn up. A minimum of 128 earned, approved semester credit hours are needed for graduation.

***This course will count towards the requirement of 47 credits of 300/400 level courses.**

****Subject to approval by the Dean, up to six credits of courses prerequisite to those taken At the 300/400 level will count towards the 47-hour requirement in Note 2. These approved courses count as 300/400 level electives.**

Graduate Level Course Requirements

9841:641	Polymer Materials Engineering Science	2.0	_____
9841:650	Basic Engineering for Polymer Engineers	3.0	_____
9841:661	Polymerization Reactor Engineering	3.0	_____
9841:601	Seminar: Polymer Engineering	1.0	_____
9841:611	Structural Characterization of Polymers with Electromagnetic Radiation	2.0	_____
9841:621	Rheology of Polymeric Fluids	3.0	_____
9841:651	Polymer Engineering Laboratory	3.0	_____
9841:622	Analysis and Design of Polymer Processing Operations I	3.0	_____
9841:6xx	Electives	3.0	_____
9841:699	Master's Thesis	3.0	_____

Courses marked with * are to be applied to the requirements of both the bachelor's and master's degree.**

Advisor's Signature Date

Student's Signature Date

Department Chair's Signature Date

COMMENTS _____

The University of Akron

General Education Requirement

- | | |
|---|--|
| <p>1. English Composition (7 credits)</p> <p>3300:111 _____ __cr.____</p> <p>3300:112 _____ __cr.____</p> <p>2. Mathematics (3 credits)</p> <p>3450: _____ __cr.____</p> <p style="padding-left: 20px;">or</p> <p>3470: _____ __cr.____</p> <p>3. Natural Science (8 credits)
(Minimum of 2 courses, one of which has a lab component,
selected from two different departments)</p> <p>Biology _____ __cr.____</p> <p style="padding-left: 20px;">or</p> <p>Chemistry _____ __cr.____</p> <p style="padding-left: 20px;">or</p> <p>Geology _____ __cr.____</p> <p style="padding-left: 20px;">or</p> <p>Physics _____ __cr.____</p> <p>4. Oral Communication (3 credits)</p> <p>7600:105 _____ __cr.____</p> <p style="padding-left: 20px;">or</p> <p>7600:106 _____ __cr.____</p> <p>5. Physical Education/Wellness (1 credit)</p> <p>5540: _____ __cr.____</p> <p>5540: _____ __cr.____</p> | <p>6. Social Sciences (6 credits)
(Courses selected from two different sets)</p> <p>Economics _____ __cr.____</p> <p>Geography _____ __cr.____</p> <p>US Govt/Politics _____ __cr.____</p> <p>Psychology _____ __cr.____</p> <p>Sociology/Anthropology _____ __cr.____</p> <p>United States History _____ __cr.____</p> <p>Social Science/Technology _____ __cr.____
/Society</p> <p>7. Humanities (10 credits – 3 courses)</p> <p>3400:210 _____ __cr.____</p> <p style="padding-left: 20px;">and</p> <p>2 courses selected from two different departments</p> <p>Fine Arts _____ __cr.____</p> <p style="padding-left: 20px;">or</p> <p>Philosophy/Classics _____ __cr.____</p> <p style="padding-left: 20px;">or</p> <p>Literature _____ __cr.____</p> <p style="padding-left: 20px;">or</p> <p>3400:211 _____ __cr.____</p> <p>8. Area Studies and Diversity (4 credits – 2 courses)</p> <p>_____ __cr.____</p> <p>_____ __cr.____</p> |
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