

TEL 204 Polymer Molding & Forming Fall 2009
State University College at Oswego
Department of Technology

Mr. Daniel Tryon, Assistant Professor (tryon@oswego.edu <http://tryon.oswego.edu>)
Section 520 Meeting Times: Monday, Wednesday, & Friday 10:20 - 12:10
Final Exam: Monday, December 14 at 10:30 am - 12:30 pm.

Mr. Peter Wanamaker, Adjunct Professor (wanamake@oswego.edu)
Section 530 Meeting Times: Monday, Wednesday, & Friday 1:50 - 3:40
Final Exam: Monday, December 14 at 2:00 pm - 4:00 pm.

How to Contact Mr Tryon:

Office Hours: Posted on website & others by appointment. PLEASE come to visit or to ask questions.

Office: 161 Wilber Hall

Telephone: Office 315.312.2832 Home 315.342.0799

E-mail: tryon@oswego.edu

Web: <http://tryon.oswego.edu>

How to Contact Mr Wanamaker:

Office Hours: Posted in lab & others by appointment. PLEASE come to visit or to ask questions.

Office: 206 Park Hall

Telephone: Office 315.312.2839 Home 716.572.4217

E-mail: wanamake@oswego.edu

Textbook:

Industrial Plastics Theory and Applications (2004) Erik Lokensgard

Published by Delmar Learning, ISBN # 1-4018-0469-1

Course Changes:

Course activities, modules, tests, assignments may change as needed.

Means of Evaluation:

- Skill development attained through activities and exercises in the lab. Each area carries a predetermined maximum number of points (ALL laboratory modules must be completed).
- Understanding of principles and concepts through objective tests and written assignments.
- Class and group participation

Class Absences:

Removal from the course with a grade "E" will take effect upon the fourth absence. Three days late will equal one absence.

Modeling Release:

If you don't like your picture taken, then learn to duck. From time to time, video will be recorded in class - smile! Photos may appear on handouts, brochures, web pages, articles, etc.

Conceptual Framework:

The School of Education has created a conceptual framework that helps all of us think seriously about learning and social justice. There are copies of the conceptual framework in the laboratory. Activities in this course have been crafted to provide truly authentic learning opportunities that include all elements of the framework; social justice, practice, reflection, knowledge, collaboration & leadership. Additional copies of the Conceptual Framework can be obtained from the Department of Technology secretary.

Testing: (40% of overall grade)

400 pts. Four tests (100 pts. Each) throughout the semester

Tests will cover textbook reading assignments, instructor's handouts, lab activity information, multimedia resources, website content, and lecture topics.

Community Service: (5% of overall grade)

3 hours of pre-approved community service (200 pts)

How To Calculate Your Grade:

Laboratory Activities

Add scores from all modules and divide by total possible points

Lab Grade 3934/4300 =91.48

Tests

Add scores from the four tests and divide sum by 400

Test Grade 345/400 = 86.25

Community Service 200/200 = 100

Divide score by 200

Overall Grade (multiply each of the three grades by the appropriate weight and add totals)

Laboratory Grade 91.48 * .55= 50.314

Test Grade 86 * .40= 34.56

Community Service 100* .05= 5

Final Grade in the Course = 89.87% = B+

Grade Ranges:

A+	98 - 100%	C+	78 - 79%
A	93 - 97%	C	73 - 77%
A-	90 - 92%	C-	70 - 72%
B+	88 - 89%	D+	68 - 69%
B	83 - 87%	D-	65 - 67%
B-	80 - 82%	F	Below 65%

University Grade Ranges used for some evaluation items:

A+: 4.0+ = 110	B-: 2.67 = 66.75	D: 1.00 = 25
A: 4.00 = 100	C+: 2.33 = 58.25	D-: 0.67 = 16.75
A-: 3.67 = 91.75	C: 2.00 = 50	E: 0.00 = 0
B+: 3.33 = 83.25	C-: 1.67 = 41.75	
B: 3.00 = 75	D+: 1.33 = 33.25	

Laboratory Activities: (55% of overall grade)

MOD #	POINTS	MODULE NAME	TYPE
1	100	Attendance	Individual
2	200	Polymer Hyperlinks	Individual
3	600	Polymer Question Development	Individual
4	700	Term Paper	Individual
5	200	Product Sample Show and Tell	Individual
6	200	Daily Laboratory Cleaning	Individual
7	200	Plastics Identification	Group
8	100	Specific Gravity	Group
9	100	CAD Drawing	Group
10	300	Vacuum Forming	Group *
11	100	Injection Molding	Group
12	100	Polymers: How Important Are They?	Individual
13	100	Expanded Bead Molding	Individual
14	200	Mold Making	Group
15	100	Rotational Molding	Group
16	100	Slush Molding	Individual
17	100	Plastisol Dip Coating	Individual
18	100	Blow Molding	Group
19	100	Regrind & Blending	Large Group
20	100	Hot Gas Thermal Welding	Individual
21	100	Broken Plastic Product Repair	Individual
22	100	Laboratory Maintenance	Individual
23	300	Encapsulation & Casting	Individual
24	100	Engraving	Individual
25	100	Heat Sealing	Individual
26	300	Packaging	Group *
27	200	Polymer Shrinkage	Group *
28	100	Presentation	Individual
29	100	Blown Film	Large Group
30	100	Arburg Injection Molder	Large Group
31	100	Display Case	Group
32	300	Reinforced Plastic Molding with a Filament Wound Mold	Group
33	300	Reinforced Plastic Molding with a Closed Mold	Individual *
34	300	Reinforced Plastic Molding with an Open Mold	Individual *
35	200	Vacuum Bag Molding	Individual *
36	100	Polymer Molding Notebook	Individual
37	100	Save the Planet	Individual
38	100	Ultrasonic Welding	Individual

* = construction of a mold is required

6600 Possible Module Points (Modules and point values will be adjusted as necessary throughout the semester. See class copy of syllabus and class calendar for changes and current version.)

When are modules to be handed in?

As completed throughout the semester. Some have specific due dates. See calendar.

You must complete all of the assigned modules to receive a passing grade in this course.

Materials Fee and other requirements:

A laboratory fee has been paid at Bursars office.

You must carry a pair of safety glasses with side shields that are to be worn in the lab at all times.

You may wish to purchase a dust mask/respirator.

You may wish to purchase hearing protection.

You may wish to purchase heavy reusable chemical resistant gloves.

Note:

If you have a disabling condition that may interfere with your ability to successfully complete this course, please contact the Disability Services Office (315-312-3358, 183 Compass Center, <http://www.oswego.edu/student/services/disabilities/>).

General Laboratory Rules & Personal Safety:

NO Sunglasses. NO hats. NO tobacco products. NO distracting cell phone use

EYE PROTECTION. The department safety policy requires students to own safety glasses and to wear them at all times in the laboratory. Prescription lenses must be tempered or prescription ground safety glasses. You must cover standard prescription glasses with safety glasses or a safety shield. No sunglasses are to be worn in the lab.

HAIR PROTECTION. Safety caps may be required for long-haired students. Long hair will be determined by the instructor. The ease with which a strand of hair can be caught upon revolving machinery presents a serious hazard to students.

BODY PROTECTION. Wearing apparel, both general and special, that have been designed to protect the worker. Trousers and short-sleeved shirts are ideal for most operations in the Polymer lab. No headphones/earbuds are permitted.

LUNG PROTECTION. You will wear a dust mask when sanding and/or grinding any plastic containing reinforcing fabrics such as glass, carbon fiber, Kevlar, etc. You may wish to wear your own respirator to avoid dusts and/or fumes. However, you must be fit tested and pass a respirator physical given by a qualified medical professional.

HEARING PROTECTION. Hearing protection muffs are available at all times if you wish. They are usually found near the router. Ask the instructor if you need help finding them.

FOOT PROTECTION. Wearing full foot covering is required. **Leather shoes are preferred over canvas.** Sandals or other open-toed or heeled shoes are prohibited.

EQUIPMENT OPERATION. You are not to use any equipment that an Oswego Technology Department faculty member has yet to train you to use. The instructor is available to train you to use any equipment in the laboratory. Do not operate any equipment unless you are completely familiar with the Oswego and Manufacturer's operating procedures.

Other Important Course Information

Assignments, Quizzes and Tests

There are no make-ups; everything must be completed on time. Check with the class calendar and the instructor for due dates.

All laboratory modules are due at the end of class on December 4, 2009. The term paper is due in printed form AND on a CD enclosed in a CD sleeve or case, on December 11, 2009. No laboratory work will take place on the last 3 class days of the semester. You will give a six minute presentation on one of those days on your term paper topic. Presentation materials will be included on your CD.

The last day of class - No lab work will be done on the last class period of the semester. This day will be devoted to laboratory clean-up and everyone must attend.

Cheating, plagiarizing, and vandalizing are strictly forbidden. These offenses will result in a failing grade as well as possible expulsion and other penalties. Your submitted electronic documents are digitally compared with all known sources of similar documents. Plagiarism will be severely penalized.

Still pictures, motion pictures, audio recordings, and work samples are taken and/or recorded in this course. These artifacts are used on public websites, course documents, promotional materials and other published works. Dress, speak, act, and perform accordingly.

For the "Product Sample Show and Tell" module, you are to research and contact the manufacturer and/or vendor of a cutting edge polymer or polymer process or product. You are to request product samples. These samples will be donated to the laboratory to be used with current and future classes. Many of the sample materials you will be shown have been acquired by students in the past and donated to the lab for your benefit.

This laboratory course is potentially dangerous. You are responsible for personal safety. You are to work in a safe manor and follow all safe operating procedures. This will contribute to the safety of all class members. Violating safe operating procedures is grounds for being dropped from this course. You are not to operate any equipment that you have not been trained to use.

The care and maintenance of this laboratory is your shared responsibility. Any abuse, misuse, or vandalizing is grounds for criminal prosecution and will result in being dropped from the class with a failing grade of E.

You will work with a laboratory partner for several activities in this course. If there are issues between you and your lab partner that you can not resolve, speak with the instructor as soon as possible!

Success in this course requires that you come to class prepared! You must review, read, and prepare laboratory module descriptions outside of class in preparation for class demonstrations. You must stay up to date in the textbook readings outside of class. You must perform sketching, drawing, planning and research outside of class so that you make efficient use of laboratory equipment and materials during class.

TEL 204/520 & 204/530 Polymer Molding & Forming • 2009 Fall Semester Calendar
 Mr. Dan Tryon • <http://tryon.oswego.edu> • tryon@oswego.edu
 Mr. Peter Wanamaker • wanamake@oswego.edu

Wk.	Day	Date	What's happening	What is DUE This Day	Notes	
1	1	8/31/09	Intro, photos		Find something interesting in the world of plastic that would make a good term paper topic?	
	2	9/2/09	course materials			
	3	9/4/09	World of Plastic			
2		9/7/09	NO CLASS: Labor Day			
	4	9/9/09	Polymer Identification			
	5	9/11/09	Work Day: No Tryon (SOE)			
3	6	9/14/09	Polymer History	Mod 12: How Important Are They?		
	7	9/16/09				
	8	9/18/09				
4	9	9/21/09	Polymer Chemistry			
	10	9/23/09				
	11	9/25/09				
5	12	9/29/09 Tuesday but we have class!	EXAM 1 Plastics Identification & Other Modules, handouts, films	Module 5 Letter Due		Start working on lessons learned as soon as you finish each module.
	13	9/30/09				
	14	10/2/09				
6	15	10/5/09			Dock Day is in October.	
	16	10/7/09				
	17	10/9/09				
7	18	10/12/09				
	19	10/14/09				
	20	10/16/09				
8	21	10/19/09	EXAM 2	Class NOTEBOOK Due		Start digging in to your term paper in October. You should have most of your research done and your outline completed by 11/16/09.
	22	10/21/09				
	23	10/23/09				
9	24	10/26/09				You must have at least 8 sources for your term paper and only half of them (at the most) may be internet references.
	25	10/28/09				
		10/30/09	NO CLASS: Fall Conference			
10	26	11/2/09				
	27	11/4/09				
	28	11/6/09				
11	29	11/9/09				
	30	11/11/09				
	31	11/13/09				
12	32	11/16/09	EXAM 3	Term Paper OUTLINE	The end is near! Are you almost finished?	
	33	11/18/09				
	34	11/20/09				
13	35	11/23/09				
		11/25/09	NO CLASS: Thanksgiving			
		11/27/09	NO CLASS: Thanksgiving			
14	36	11/30/09			Term paper as a PDF (Do you know how to create a .pdf and burn a CD)? Term paper must be in APA format! – Learn It, Love It!	
	37	12/2/09				
	38	12/4/09	LAST DAY TO WORK	ALL LABORATORY MODULES DUE at end of class!		
15	39	12/7/09	Student Presentations			
	40	12/9/09	Student Presentations			
	41	12/11/09	Student Presentations / Clean Mandatory Clean Up	Term Paper Due (in print and as .pdf on a CD) Presentation materials on same CD due.		
FINAL EXAM 4 - MONDAY December 15 (TEL204/520: 10:30 am - 12:30 pm) (TEL204/530: 2:00 pm - 4:00 pm)						

(Schedule Subject to Changes by Professor and University)

What's On The Exams?

EXAM	DATE	LOKENS GARD CHAPTERS	LAB MODULES & VIDEOS
Exam # 1	Tuesday , September 29	1, 2, 3, 4, 5	All as distributed
Exam # 2	Monday, October 19	6, 7, 8, 9, 10	All as distributed
Exam # 3	Monday, November 16	11, 12, 13, 14, 15, 16	All as distributed
Exam # 4	Monday, December 15	17, 18, 19, 20, 21, 22, 23	All as distributed

