



Tecnológico  
de Monterrey



# Plastics and Composites Engineering

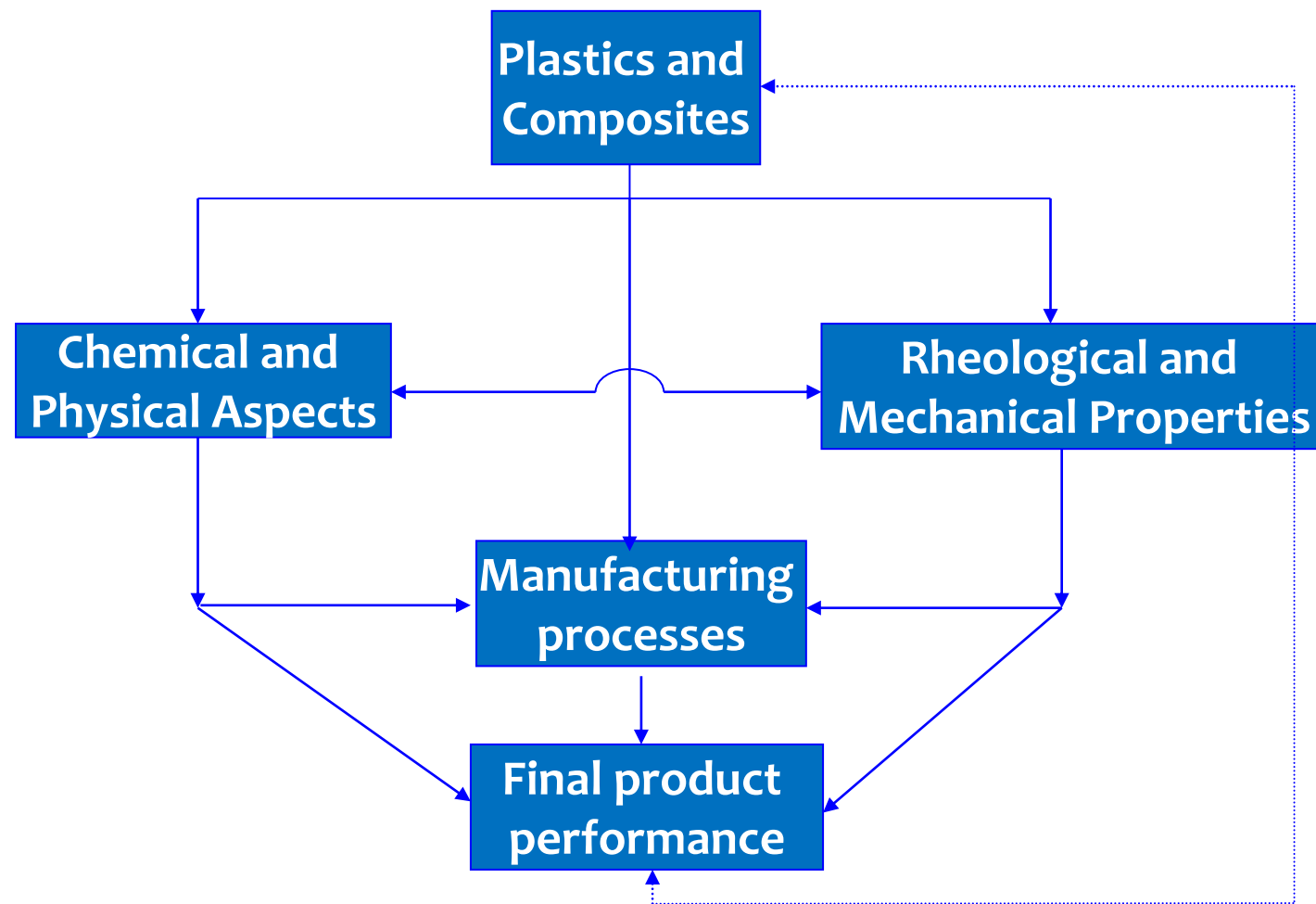
Dr. Jaime Bonilla Ríos



# Syllabus

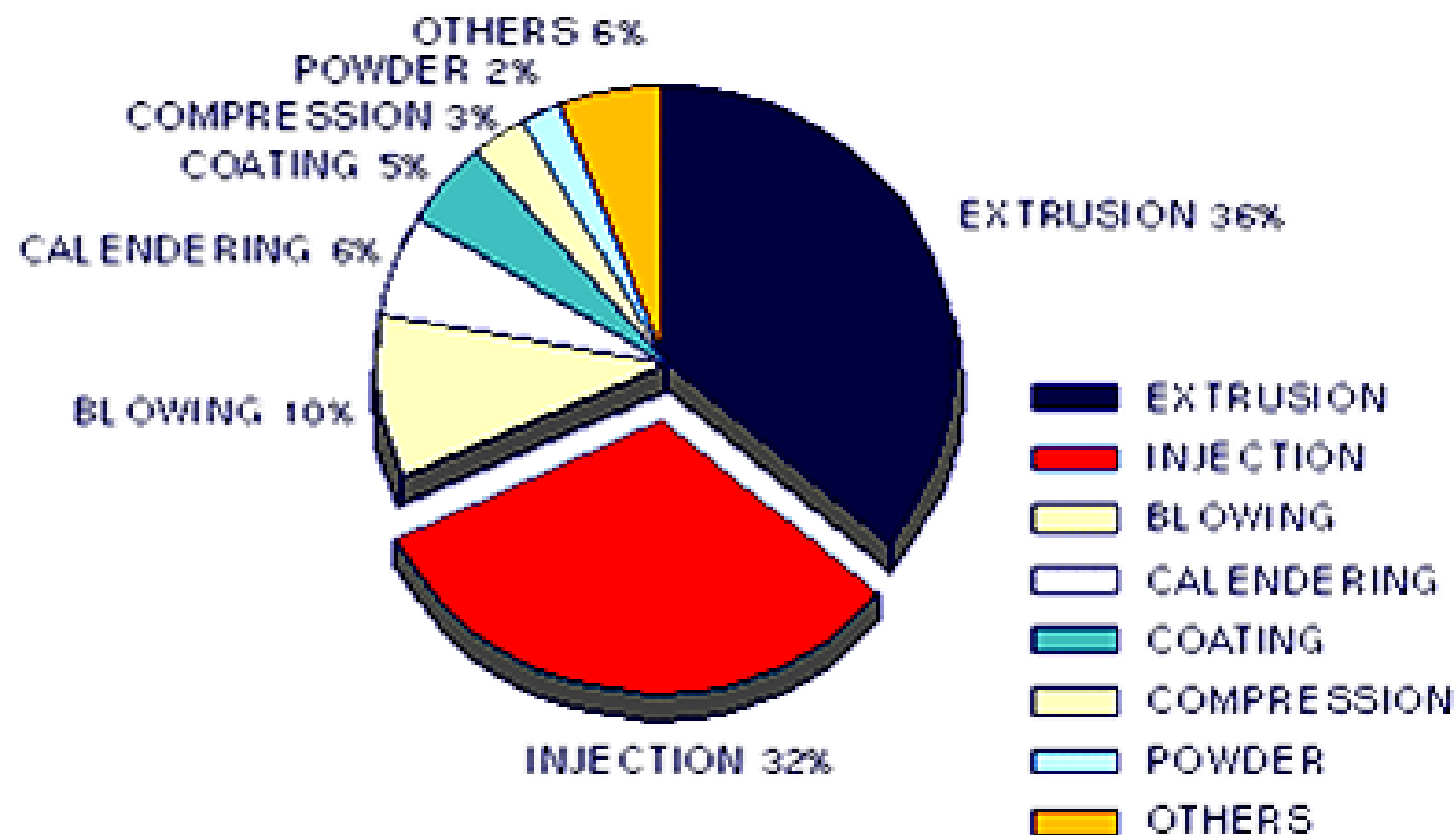
1. Introduction to polymer processing. (6hrs)
2. Intimate nature of polymers. (6hrs)
3. Flow and deformation of polymers (9hrs.)
4. Linear viscoelasticity (6 hrs.)
5. Introduction to the non-linear viscoelasticity. (3hrs).
6. Flow of polymers at transient state. (3hrs)
7. Elementary steps in polymer processing (3hrs)
8. *Mechanical behaviour of plastics and composites (9hrs)*

# Conceptual map of the course





# Polymer Processes



# Polymer Processing

## Extrusion

- Fiber spinning
- Film casting
- Blown film
- Blow molding

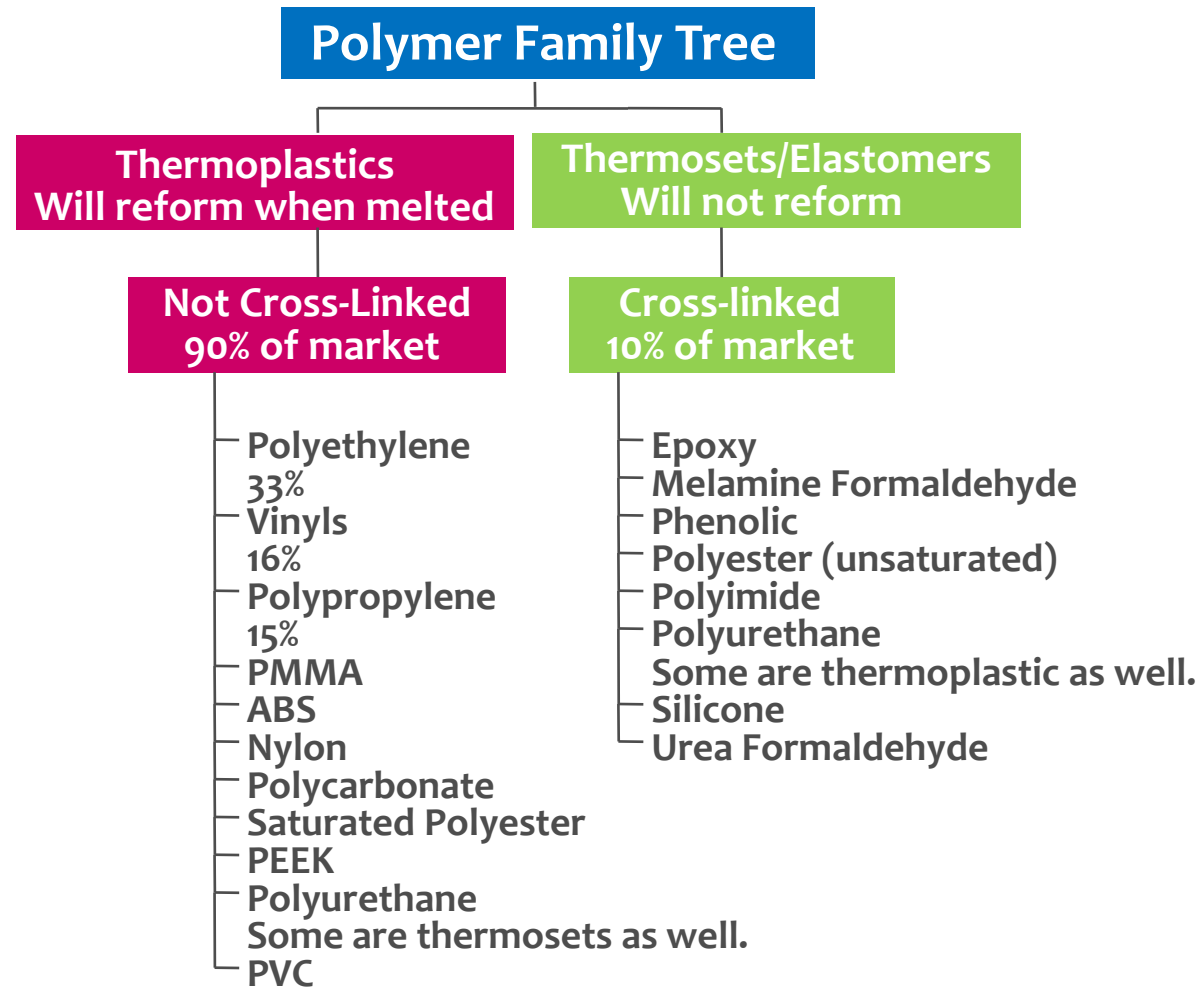
## Injection

- Injection molding
- Blow molding
- Reaction Injection Molding (RIM)
- Gas Assisted Injection Molding (GAIN)

## Others

- Rotomolding

# Types of Polymers



# Polyethylene





# Polypropylene





# Polystyrene





**EPOXY**



**NYLON**



**POLYURETHANE**



**SILICONE**

A collage of automotive-related images including a car, various mechanical parts like bolts and springs, and technical diagrams. The collage is primarily in shades of blue and white, with some yellow highlights.

**Dr. Jaime Bonilla Ríos**





# Tecnológico de Monterrey

Derechos Reservados 2015 Tecnológico de Monterrey

Prohibida la reproducción total o parcial de esta obra sin expresa autorización del Tecnológico de Monterrey.