LASCT
CERTIFIED COATINGS TECHNOLOGIST COURSE

30 WEEKS IN 10 WEEK SECTIONS. YOU CAN SIGN UP IN ANY QUARTER WITHOUT HAVING TAKEN THE PREVIOUS QUARTER. NO PREREQUISITES. THE PRINCIPLES OF CHEMISTRY WILL BE TAUGHT ALONG WITH THE PAINT CHEMISTRY. IT IS MEANT TO BE INFORMATIONAL AS WELL AS EDUCATIONAL. IF YOU READ THE ASSIGNMENT YOU WILL NOT FAIL THE CLASS. ATTENDANCE COUNTS AS PART OF THE GRADE.

CLASS IS FROM 6 TO 8 WEDNESDAY EVENINGS AT THE HOLIDAY INN, BUENA PARK. THE LASCT GENERAL MEETING COUNTS AS A MEETING. MEMBERSHIP IN THE LASCT IS REQUIRED.

COST IS $500 PER QUARTER (EVERY 10 WEEKS). SEND CHECK TO LASCT, PO BOX 3633, ORANGE, CA 92857.

IF YOU MISS A CLASS YOU CAN MAKE IT UP THE NEXT YEAR FOR FREE.

THE CLASS CAN BE TAKEN BY ATTENDANCE ONLY BUT TO GET A CERTIFICATE YOU NEED TO PASS EASY QUIZZES AND AN EASY FINAL EXAM. STUDENTS CAN START AT ANY QUARTER.

THE CLASS FOLLOWS THE COURSE BOOK “ORGANIC COATINGS” BY WICKS, JONES AND PAPPAS. YOU NEED TO BUY IT BEFORE CLASS STARTS. AMAZON AND BARNES & NOBEL SELL IT ON LINE. IT IS ALSO AVAILABLE FREE ONLINE. ALSO TAUGHT ARE BATCHMAKING SOFTWARE AND COLOR COMPUTERS, LAB NOTEBOOKS, FACTORY TOURS AND OTHER RELATED SUBJECTS.

TAUGHT BY V.C. BUD JENKINS BS, MBA, JD, CHMM, CHWP.
CHAIR, LASCT EDUCATION COMMITTEE.
OVER 50 YEARS EXPERIENCE IN THE COATINGS INDUSTRY.
TAUGHT PAINT CHEMISTRY AT CAL POLY POMONA FOR 18 YEARS.

SIGN UP NOW. WINTER QUARTER STARTS JANUARY 7, 2015 !
vcbudjenkins@yahoo.com

909-260-4263.
Fall Quarter

1. What are Coatings?
    a. Definitions and Scope
    b. Composition of Coatings.
2. Polymerization and Film Formation
    a. Polymers, molecular weight, morphology
    b. Polymerization
    c. Film Formation
3. Flow
    a. Shear Flow, Shear viscosity, Rheometers.
    b. Viscosity of resin solutions.
4. Mechanical Properties
    a. Basic Mechanical properties.
    b. Formability and flexibility.
    c. Abrasion and mar resistance.
5. Exterior Durability
    a. Photoinitiated oxidative degradation.
    b. Photostabilization, uv absorbers and excited state quenchers.
6. Adhesion
    a. Surface mechanical effects on adhesion
    b. Relationship between wetting and adhesion.
7. Corrosion protection by coatings
    a. Corrosion of uncoated steel.
    b. Corrosion protection of metals, inhibition and passivation.
    c. Evaluation and testing.
8. Latexes
    a. Emulsion polymerization
    b. Acrylic latexes
9. Amino resins
    a. Synthesis of melamine-formaldehyde resins
    b. Types of MF resins.
10. Binders based on isocyanates: polyurethanes
    a. Reactions of isocyanates.
    b. Catalysts
    c. Waterborne polyurethanes

Winter Quarter

11. Epoxy and phenolic resins.
    a. Epoxy resins
    b. Bisphenol A epoxy resins.
12. Acrylic Resins
    a. Thermoplastic Acrylic resins.
    b. Thermosetting Acrylic resins.
13. Polyester Resins.
    a. Hydroxy-Terminated polyesters for conventional solids coatings.
    b. Polyester resins for high solids coatings.
14. Drying Oils.
    a. Composition of natural drying oils.
    b. Autoxidation and cross-linking.
    c. Synthetic and modified drying oils.
15. Alkyd Resins.
    a. Oxidizing Alkyds.
    b. High Solids Oxidizing Alkyds.
    c. Water-Reducible Alkyds.
16. Other Resins and Cross-Linkers
    a. Halogenated Polymers
    b. Vinyl Chloride Copolymers
    c. Florinated Polymers.
    d. Nitrocellulose.
17. Solvents
    a. Solvent Composition
    b. Solubility, evaporation rates, viscosity effects, flammability, voc.
18. Color and Appearance.
    a. Light, object, standard observer.
    b. Hiding, Metallics, Interference colors, color systems.
    c. Color matching.
19. Pigments
    a. White pigments, Titanium Dioxide
    b. Color Pigments, Yellow and Orange, Red, Blue and Green, Black.
20. Pigment Dispersion
    a. Dispersions in Organic Media, wetting, separation, stabilization.
    b. Formulation of mill bases.

Spring Quarter

21. Pigment Volume Relationships.
    a. Film properties and PVC, CPVC.
22. Application Methods.
    a. Brushes, Pads, Hand rollers
    b. Spray application
    c. Dip and flow coating, Roll Coating
23. Film Defects
    a. Surface Tension, Leveling, Sagging, Crawling, Cratering
    b. Floating and Flooding, Wrinkling, Blistering, foaming.
24. Water-borne Coatings.
    a. Water-Reducible coatings.
    b. Latex based coatings.
25. Powder coatings
    a. Binders for Thermosetting Powder Coatings, epoxy, hybrid, polyester, acrylic, uv cure.
    b. Binders for thermoplastic powder coatings.
26. Radiation cure coatings
    a. UV cure, free radical initiated, oxygen inhibition.
    b. Electron Beam cure coatings
27. Product Coatings for metal substrates
    a. OEM automotive coatings, appliance coatings, container coatings, coil coatings.
28. Product coatings for nonmetallic substrates.
    a. Wood furniture, plastics
    b. in-mold coating, post-mold coating.
29. Architectural coating.
    a. Exterior house paint, interior flat wall paint, gloss enamels.
30. Special purpose coatings.
    a. Maintenance paints, barrier coating systems, zinc-rich pigments.
    b. Marine coatings, auto refinish coatings, aircraft coatings.
    c. Inks, chemistry and application.