15/5/41
Liberal Arts and Sciences
Chemistry
Timothy A. Nieman Papers, 1975-1997

Box 1:

**Course Materials**

Chemistry 319 (Instrumental Characterization of Chemical Systems Laboratory)
- Expt 5 Calcium 15E
- Expt 9 Fluorescence
- Expt 4 Copper/DA Storch

CEC Resource
Chemistry 322 ("Separation Methods") Electrophoresis Chapters
- Electrophoresis Chapter Copy
- Electrophoresis C.1
- Electrophoresis C.2

Chemistry 322 TLC/LC
- TLC C.1
- TLC
- Microbore LC

Chemistry 322 T.A. Notes
- T.A. Notes Electrophoresis
- Basic GC T.A. Notes
- Basic LC T.A. Notes
- Retention Indices TA Notes
- GC Derivatization TA Notes
- Temperature Programming TA Notes

Chemistry 322 Exams
- Old Exam I Theory/GC
- Old Exam II LC/Electrophoresis/FFF
- Old Finals/oral Exam

Chemistry 322 Labs
- Manual
- Ion Pair RPLC
- Basic GC
- Basic HPLC Reverse Phase
- LC Derivatization (Amino Acids)
- Electrophoresis
- Capillary Electrophoresis
- Retention Indices
- GC Derivatization (Hydroxybenzoic Acids)
- Lab TLC
- Lab Temperature Programming
- Lab TLC

Chemistry 322 Derivatizations
- LC Derivatization Amino Acids
- LC Derivatization

Chemistry 322 Handouts
- Handout Masters
- Resolution Handout
- With varying Peak Width
- Rate Theory

The materials listed in this document are available for research at the University of Illinois Archives. For more information, email illiarch@illinois.edu or search http://www.library.illinois.edu/archives/archon for the record series number.
Comparing % Loading and Temperature
General Elution Problem & Solutions
General Elution with Change of Conditions
General Elution with Change of Conditions
Temperature Program
Effect of Solvent in LC
Gradient Elution
Column switch/Heartcut
2 Dimensional TLC
Retention Indices
GC Detectors
SFC K' vs Temp.
HPLC Connectors
LC Pumps & Dampeners
Mobile Phase Viscosity
Reverse Phase
Bonded Phase Chemistry Silica & Polymer
Ion Exchange/Pair
Size Exclusion
LCEC Detection
Amino Acid Derivatization
TLC
Trubey Table Multidimensional Chromatory Sample Clean Up
Electrophoresis
Field Flow Fractionation
Field Flow Fractionation
Chemistry 322 Schedules
Course Overview/Schedul
Old Schedules/Outlines
Chemistry 322 Chromotographies
Planar & Column Chromotography Basics
Sample Chromatograms
Chromotography vs Race Cars
Chemistry 322 Miscellaneous
Lab Report Policy
Reserve Books
Outside Speakers
Discrete "matchbox" Calculations

Box 2:

IBM 9000 TA Notes
Chemistry 322
Field Flow Fractionation
GC Detectors (4 pages) Copy 1
GC Detectors (4 pages) Copy 2
GC Detectors (4 pages) Copy 3
Supercritical C-1 Fluid Chromotography
Electrophoresis Figures C.2
Electrophoresis Figures C.1
Handout on Chromotographic Theory Copy 3
Supercritical Fluid Chromotography C.2
Copy of Reserve Articles
Lab-Old Experiments
Library Reserve Rosie & Graob-"Thermal Conductivity Behavior" C.1
Library Reserve Rosie & Grob-"Thermal Conductivity Behavior" C.2
Spring 1992
Lecture Intro
Lecture Chromatographic Theory
Spring 1998
Electrophoresis Field Flow Fractionation
Gas Chromatography
Lecture 1. General Elution Problem 2. Survey of Chromatography Modes
Fall 1990
Spring 1990
Miscellaneous
Lecture Liquid Chromatography
Chemistry 420(Advanced Analytical Chemistry)
Exam I
Exam II
Exam III
Final Exam
Chemical Applications of the World Wide Web System
Fourier Domain Data Handling
Digital Data Handling of Spectra Utilizing Fourier Transformations
Graphical Representation of Equilibria (Copy 2)
Enke & Nieman Least Squares Smoothing
Geographical Representation of Equilibria (Copy 1)
Savitzky & Golay Least Squares Smoothing
Multichannel Array Detectors Articles pt.2
The Chemical Analysis of Things as They Are
Electrophoresis C.1
Electrophoresis C.2
Internet
Student Computer Accounts
Materials Characterize
Ph Measure
Sensors
Separation & Mass Spec
Surface Character
Limits to Measure
Resource Chemometrics

Box 3:

Fall 1994
Chem 420 Folder
Scanning Probe Microscopics
Chemistry 322/424 Schedule
Spring 1994
Chemistry 424 Schedule (Special Topics in Analytical Chemistry)
Fall 1990
Chemistry 424
- Reserve-Nieman Dose & Guichon-"Effect of Extracolumn..." Copy 1
- Reserve-Nieman Dose & Guichon-"Effect of Extracolumn" Copy 2
- Cramers & Leclerq Vacuum Outlet GC
- Cramers & Leclerq Vacuum Outlet GC

Chemistry 490 Handouts (Special Topics in Chemistry)
- Masters
- Course Outline
- Reserve Books
- Analytical Literature
- Chemistry Titles Current Contents
- Synthetic Matrix
- Deloye Huckel Activity Solvent & Equilibria
- Log Cone Plots
- Rate Based Essays
- Fourier Series
- DAC/ADC
- Array Detector Monochromators Flourescence, Atomic Spec Raman, NMR
- Separations
- Surface Techniques Mass Spec
- Multichannel Array Detectors Yair Talmi Articles pt.1

Chemistry 490 Assignments and Exams
- Problems for Assignments or Exams
- Assignment #1 Analytical Monographs
- Assignment #2 Matrix Interference
- Assignment #2 Activity/Equilibria
- Assignment #4 Kinetics
- Assignment #5 Spectroscopy
- Assignment #6 Electrochemistry
- Old Exams
- Resource Spectroscopy
- Sweedler Article Change Transfer Detectors

Chemistry 490 Schedule
Fall 1991
Spring 1993
Fall 1993

Chemistry 490 Lecture
- Introductory (What is AC?) Literature
- Chemical Concepts Equilibria, Kinetics & Diffusion Immuno Essay
- Measurement Concepts Encoding, Transducer, Sensor
- Measurement Instrument & Technique Loading Op-Amps D/A and A/D SNR
- Electrochemistry
- Spectroscopy
- Mass Spectroscopy Surface Analysis
Box 4:

**Product information, lab and research notes**

- CIBA/Corning Products
- Keen Solutions/Katrina Heinze correspondence, 1994
- Pierce Chemical Company, 1992-1993
- Amine Project
- Lab Notes and Data, May 1991-Feb. 1995 (29 folders)
- Research Notes/Ideas, 1982-1992
- Luminol ECL Response Surfaces–Glen Jirka, Alice Martin
  - Analytical Chemica Act correspondence, 1993
  - Data/Figures
- Alice Martin–Research Data
  - 1994
    - June-Nov.
    - Feb.-May
  - 1993
    - July-Dec.
    - Jan.-June
  - 1992
    - Mar.-Dec.
    - Jan.-March

Box 5:

**Research notes, grade books, and articles**

1991
- Sept.-Dec.
- July-Aug.
- Feb.-June

1990
- Heinz/Nieman presentation: Peroxyxalate Chemiluminescence in Liquid Carbon Dioxide
- Katrina Heinze thesis table and figures lists, 1995
- Chemistry 122 students, 1975-1977
- Chemistry 122 grade books
  - 1975-1977
  - 1981, 1985
- Chemistry 123 grade books, 1983-1984
- Professional Analytical Chemistry in Industry Course, 1989-1990
- Published Papers
  - 1976-1984
  - 1985-1997
- Chen/Zhang–ILITC, 1992
- Electrochemical Generation of Luminol Chemiluminescence, 1987
- Rao-Nieman
  - Nylon as an Immobilization Support Paper
  - Novel Flow Injection Schemes for the Determination of Peroxide ...
- Determination of the products of Phenol and chromosubstituted phenols ..., 1986-1987
R. Blessing Probe article, c. 1988
Determination of amino acids and other ligands ... , 1987-1990
Swindlehurst and Nieman–sugars, 1988-1994
Glen Jirka, 1992
Moriarty/Trubey–Glucoside wheat, 1989-1990
Nekimken, Chen, Faulkner, and Nieman, 1985-1990
Solvent and reagent concentration effects in luminol and lucigenin chemiluminescence
A fiber optic hydrogen peroxide sensor based on luminol electrogenated chemiluminescence
Dan–data