Fine Arts Research & Holographic Center

SCHOOL OF HOLOGRAPHY

CATALOG

1980/81

FACULTY AND STAFF

Loren Billings, *Director*

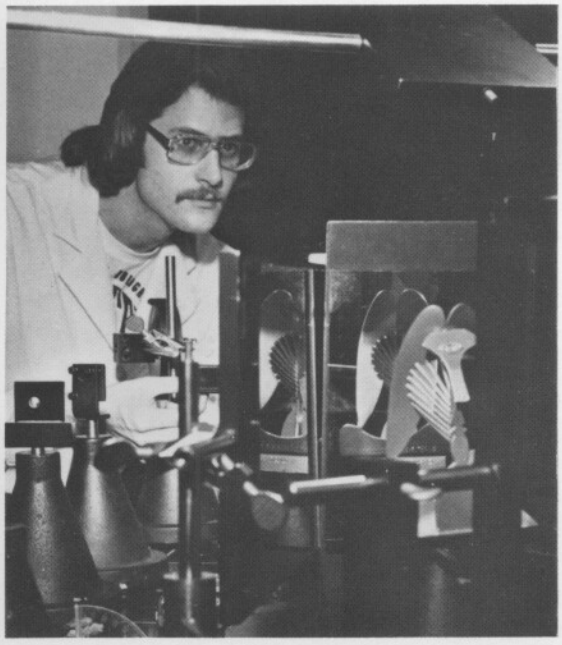
Dr. Tung H. Jeong, *Special Consultant*

Consultants

David Wender	*Optics, Holography*
Rudy Haidle	*Lasers, Photochemistry*
Rudy Guzik	*Optics, Photochemistry*
Dr. Henry Morgan	*Lasers, Holography*

Instructors

Al Ornelas	*Art & Holography*
John Hoffmann	*Holography, Photochemistry*
Edward Wesly	*Holography, Optics*
James Perri	*Holography T.A.*
Victor Heredia	*Multi-Media*
Larry Lieberman	*Integral Holography*
Lon Moore	*Image Plane Holography*



THE SCHOOL OF HOLOGRAPHY offers a comprehensive course of study in Holography. We are dedicated to holography as an important Artform and as a developing Technology. The curriculum provides the student with the opportunity to explore the field of holography as an Artist, a Scientist and an Engineer. We believe that a program that encompasses both technical training and philosophical analysis will lead to significant developments in Art and Science.

Classes at the School are scheduled for ten week periods. The academic year is comprised of four periods: Fall, Winter, Spring and Summer Quarters. Registration in any particular Quarter is held until the week before those classes begin. A class schedule is available at the time of registration. Tuition must be paid before the first class meeting.

PHYSICAL PLANT

THE FINE ARTS RESEARCH & HOLOGRAPHIC CENTER is the most complete institution in the country devoted to holographic education. The School of Holography contains separate and fully equipped labs for study, research, and experimentation at every level of competency. Introductory level courses—Holography I and II—make use of five 30" x 42" sandbox isolation tables, each equipped with 5mw lasers, a complete assortment of mounted optics, and a fully equipped darkroom to process the holograms. Students in Holography III, IV, and V use the intermediate lab, which contains three concrete isolation tables (two 4' x 8' and one 4' x 10'), with rod-mounted optics and 35mw lasers. A classroom and reception area are used for lectures and discussions. The Museum contains 7,000 square feet of space for exhibitions and public lectures, and maintains a permanent collection of holograms by artists from all parts of the United States as well as England, Sweden, Canada, and the Soviet Union.

Fine Arts Research & Holographic Center
1134 W. Washington Blvd.
Chicago, Ill. 60607
(312) 226-1007

Curriculum and Systems Information

HOLOGRAPHY I
INTRODUCTORY

Sand box systems with 5 MW LASER, light meter and optical components. Darkroom with processing chemicals and film with a format capability of 4x5.

Course material includes: Technical and Aesthetic history of Holography; Photographic procedure of Holography; and procedures for setting up fundamental Holograms — Single Beam reflection, Single Beam transmission, Multiple Beam reflection, and Multiple Beam transmission.
Ten three-hour sessions

Prerequisites: None

HOLOGRAPHY II

The relationships of individual elements of the holographic process are studied in greater depth to give the student greater control of hologram quality. Course subject matter includes the manipulation of exposure and processing chemistry, use of lenses to control light and focus images, forms of noise and their control.
Ten three-hour sessions

Prerequisites: Introductory Holography I or equivalent, with an example of one of each of the four fundamental holograms.

• *Course credit may be obtained by students of the University of Illinois, Chicago Circle Campus for studies in holography. The Fine Arts Research & Holographic Center is currently discussing similar affiliation and accreditation with other colleges and universities.*

HOLOGRAPHY III
INTERMEDIATE

Optical Bench 4'x10' with 35 MW LASER, Light meter and optical components. Darkroom with processing chemicals. 8x10 format capability.

Course material includes: Procedure for making Noise Free Master; Procedure for making hybrid Holograms — Focused Image and Rainbow.
Fourteen three-hour sessions

Prerequisites: Introductory or equivalent and Portfolio.

HOLOGRAPHY IV AND V

These two most advanced courses are based upon the tutorial method in which student, in consultation with their instructors, write a proposal for an independent project. Upon the instructor's approval, the project will be undertaken in facilities featuring a 4 x 10 foot optical table with 35 mw lasers. Students will be responsible for scheduling their own lab and consultation times. Projects may explore either technical or aesthetic problems in holography and should require 30 to 40 hours lab time. Unless specifically exempted by the director in writing, each project must be goal oriented. A review of the student's notes will be demanded by the instructor as well as a summarizing final paper. To obtain a diploma, two such projects are required.

Prerequsite: Holography III

OPTICS I
EXPLORING LIGHT AND LENSES

An introduction to geometrical optics; the physics and properties of light; the theory and application of reflecting and refracting optics.

Ten three hour sessions.

A pocket calculator with trigonometric functions is recommended.

Prerequisites: Concurrence with Holo I

OPTICS II
EXPLORING COHERENCE AND INTERFERENCE

An introduction to physical optics; the physics of coherent and incoherent interference; the theory and application of diffraction analysis.

Ten three-hour sessions.

Prerequisites: Optics I

OPTICS III
PHYSICS OF HOLOGRAPHY

An introduction to the principles of Holography; Fourier Optics; Applications of Holography; and a review of current developments.

Ten three-hour sessions.

Prerequisites: Optics I & II or partial Differential Equations, and Physical Optics

PHOTOCHEMISTRY I

Course investigates the actions and processes of silver halide emulsions and two non-silver processes, gum bichromate and photo-resists, through hands-on experience.

Ten three-hour sessions.

Prerequisite: None

PHOTOCHEMISTRY II

The silver halide technology learned in Photochemistry I will be used in improving the efficiency of holographic diffraction gratings by experimenting with development and bleaching, and examining its applications in the making of holograms.

Ten three-hour sessions.

Prerequisite: Photochemistry I

ART AND HOLOGRAPHY

Course is designed and dedicated to exploring the potential of Art and aesthetics in Holography with an emphasis on the meaningfulness of art for Art's sake and humanism in art.

Ten three-hour sessions.

Prerequisites: None

MULTI-MEDIA
ILLUSIONS OF THE SENSES

Course explores the multiple uses of laser light in coordination with other media; sound, optics, holography and physical properties to combine art and technology as both an exploratory and entertainment medium.

Ten two-hour sessions.

Prerequisites: None

INTENSIVE INTRODUCTORY COURSE

Course offers students the opportunity to learn the fundamental procedures of holography in one weekend's time, two twelve-hour sessions, the equivalent of Holography I

Prerequisites: None

TUTORIALS

Students eligible for any level of study may under special conditions obtain personalized instruction in a condensed or more convenient time period. Materials covered and amount of time allotted are as outlined in regular course descriptions. Arrangements must be made in advance with individual instructors subject to the approval of the director. Fees for special tutorials are $525 per course. Normal refund policy applies.

SPECIAL SEMINARS

Special seminars will be held thruout the year. The seminars concentrate on specific topics and are led by teachers who have distinguished themselves in those particular fields. The fee for a seminar is set at the time of registration.

LECTURE SERIES

The Fine Arts Research & Holographic Center conducts a regular series of educational lectures and exhibits both at its own facility and at outlying organizations and institutions. Information regarding these programs is available on request.

- *The Fine Arts Research and Holographic Center maintains a library of books, magazines, articles and videotapes accessible as reference materials to students, as well as books and holographic film available for purchase.*

- *The Fine Arts Research and Holographic Center retains the right to limit class size and to cancel a class because of insufficient enrollment or other administrative reasons with full refund.*

- *To provide a facility for continuous study, the Holographic Center is making available on a reserved time basis its various holographic systems to qualified holographers at a modest hourly rental fee.*

- *The Fine Arts Research & Holographic Center operates under a policy of total non-discrimination and does not discriminate against student applicants on the basis of race, color and national or ethnic origins.*

ACADEMIC CALENDAR 1980-1981

SUMMER QUARTER 1980
Classes begin June 30
Classes end Sept. 1

FALL QUARTER 1980
Classes begin Sept. 29
Classes end Dec. 1
Intensive Weekend Oct. 18/19

WINTER QUARTER 1981
Classes begin Jan. 19
Classes end March 23

SPRING QUARTER 1981
Classes begin April 6
Classes end June 8
Intensive Weekend May 23/24

SUMMER QUARTER 1981
Classes begin June 22
Classes end Aug. 24

Holography I begins on September 24 at 6:30 p.m.

Classes start during the weeks noted above. Students will be notified upon registration which day of the week their class will meet. Each class meets one day each week, from 6:30 to 9:30 p.m., with the exception of Holography III, which has 14 class sessions, or seven twice-weekly meetings.

ADMISSIONS POLICY

Enrollment Requirements: Candidates for enrollment must have completed a secondary school education to be eligible to enroll at the School of Holography.

A diploma will be awarded to students who complete the core curriculum (this need not be accomplished in consecutive quarters):

Holography I through V
Exploring Laser Light I and II
Photochemistry I and II

Students may then proceed independently in the field of holography.