[redacted] STAT

January 24, 1969

[redacted] STAT

Dear John,

This information, I hope, will satisfy your immediate needs. I have arranged for [redacted] who is the Program Manager to show you the units and discuss details with you Friday, the 31st of January. Total price delivered including training session [redacted] STAT STAT

Sorry I won't get to see you this trip, but I feel confident Bal and John and Parse can arise to the occasionn

Sincerely,

[redacted] STAT

Director
Photographic Engineering Department

RLC:jal

[redacted] PRIMARY STANDARD IB SENSITOMETER STAT

MODEL PS-6809

The model PS-6809 sensitometer is the result of [redacted] STAT years of experimental research and advanced systems analysis experience.

The most sophisticated sensitometers available for our use have all fallen short of the degree of precision and repeatability we found necessary in many of our test and evaluation programs. [redacted] developed STAT the model PS-6809 sensitometer to provide the accuracy required in our laboratories.

The important features of the model 6809 are:

1. Two exposure lamps are provided which have been calibrated against a United States Bureau of Standards source. The lamps are calibrated at 50 nanometer intervals from 300 nanometers to 1000 nanometers. The spectral output curve is completed through a computer program which interpolates energy values at 10 nanometer intervals. In addition to the USA Standard of 2850° K, the lamps are calibrated at 2650° K and 3000° K in order that many special exposure conditions may be simulated.

2. A spectral irradiance curve for each Kelvin temperature is made from the calibration data extending from 300 nanometers to 1000 nanometers. The calibration data includes the lamp current required to achieve each of the three Kelvin temperatures. Spectrophotometric traces are made of the special front surface mirror, the dust cover glass, the step tablets, and all filters supplied.

3. A DC power supply is used, regulating the lamp current to ±0.01% over the normal operating range.

4. A digital readout is used to monitor lamp current so that the operator is assured of repeatability.

5. A cylindrical drum shutter, having precision machined slits, provides extremely accurate exposure timer when coupled to a hysteresis synchronous motor. The variation is approximately 0.1%. The range of exposures with the drum are: 1 second, 1/2, 1/5, 1/10, 1/25, 1/50, 1/100 and 1/200th second. Auxiliary timers are used for exposures up to five minutes.

In addition to data sheets showing the Absolute Log Exposure for each light and exposure condition, the following hardware is provided:

a. A No. 5 colloidal carbon step tablet, fully calibrated, of 21 steps with a 0.15 density increment between steps.

b. A combination step and continuous wedge, calibrated as above.

c. Five calibrated glass filters to provide proper illuminance for USA Standard Daylight, 1R, and color 1R conditions.

[redacted] is confident that no sensitometer exists which is as precise and repeatable as the model PS-6809. STAT

The serious worker who requires a precision instrument to serve as a standard to which other less precise "working instruments" may be calibrated, can be assured that the accumulative error of the model PS-6809 will be insignificant when compared to any other segment of the photographic system.

The price of the PS-6809 [redacted] STAT

STAT

January 17, 1969

STAT

The program that we discussed on December 30, 1968 is now reaching the final planning stages. The enclosed schedule roughly outlines the program which we feel will prove very beneficial STAT

We are presently planning to start the first session on Monday, the 27th of January, in order to take advantage of current STAT schedule.

The cost of the program is presently being calculated and we will send it to you as soon as it is completed.

Also enclosed you will find an "Equipment Check List". Please fill this out and forward it to us as it will help in our plans for take-home assignments.

Thank you very much and we will be looking forward to your reply and the arrival STAT

Sincerely,

STAT

Photo Scientist
Photographic Engineering Group

RLA:ap

Encl.

OUTLINE FOR COURSE IN PHOTOGRAPHIC SCIENCE

The proposed outline is designed to cover the basic fundamentals of photographic science. It is based on an eighteen-day schedule which consists of six sessions with three days in each session. Also, the entire program is set up on an informal basis so that special areas of interest may be developed and pursued.

First Session

1st Day: Photometry, sensitometry, IB Sensitometer, H&D Curve, Speed, Contrast, Exposure photometry problem set.

2nd Day: Introduction to chemistry of photoscience with chemical experiment. Emulsions and developers.

3rd Day: Densitometry, analysis of chemical experiment results, tone reproduction for a negative system.

Home Work: Photometry problem set covering sources, filters and system responses.

Second Session

1st Day: Statistics and methods of experimental analysis, review of problem sets, discussion of processing variables.

2nd Day: Experiment on photographic processing covering time, temperature, agitation, etc. Recording of experimental results.

3rd Day: Discussion of experiment and statistical analysis of results. Determination of contrast, speed, etc.

Home Work: Statistics, problem set.
Practical photographic experiment involving photographing, processing, and analyzing of special targets.

Third Session

1st Day: Discussion of take home projects, lecture on reciprosity effects, experimental study of reciprosity.

2nd Day: Discussion on papers, paper speed, contact printing, projection printing and flare. Experiment on contact or project printing for various papers. Recording experimental results.

3rd Day: Tone reproduction for film and papers including analysis of experimental results. Introductory discussions leading to special project.

Home Work: Experimental tone reproduction problems.

Fourth Session

1st Day: Discussion on the chemistry of photographic processing. Mixing of chemicals for processing experiment.

2nd Day: Experiment on photographic effects of developer chemicals and processing sequence.

3rd Day: Statistical evaluation of experimental results. Further discussion of special project.

Home Work: Chemical problem set involving theory questions.

Fifth Session

1st Day: Discussion of chemical problem set, theory of reversal and duplicating processes. Experimental reversal problem and analysis.

2nd Day: Color theory, color sensitometry and densitometry, tri-color curve plotting, discussion of available types of original and duplicating films and papers.

3rd Day: Reversal duplicating film and paper.
Negative positive films and papers.
Spectral sensitivities, exposure condition, etc. for all.
Versamat theory and demonstration.

Home Work: Color project including exposure, processing and printing of color film.

Sixth Session

1st Day: Examination covering entire program. Start on special project.

2nd Day: Continue on special project.

3rd Day: Finish special project. Review examination and entire program.

Comments:

Sessions will contain short quizzes to determine effectiveness of course.

All homework assignments are designed to require extra time between informal sessions.

Homework will be based on equipment available to student at his location.

EQUIPMENT CHECK LIST

In order to plan meaningful take home assignments, it is necessary to obtain a general list of the photographic equipment available [ ] Please fill out this list and return to us as soon as possible. STAT

Types

35mm Camera (s) _____

_____

_____

Studio Lights _____

_____

_____

Film Processing Equipment _____

_____

_____

Sensitometers _____

_____

_____

Photometers _____

_____

_____

Densitometers _____

_____

_____