

Photographing Nature **PRELIMINARY COURSE SYLLABUS**

PREFACE

Both the human environment and the natural environment are under threat like never before. For some, nature and nature photography can provide respite from these challenging times.

COURSE DESCRIPTION AND RELEVANCE

Photography is playing an ever-expanding role in our lives. This is the first time in history when virtually every person carries a photographic imaging device with them almost 100% of the time. Usually, the device is a phone, but often it is a convenient point and shoot cameras, a GoPro, or even a versatile DSLR or mirrorless equivalent. The ubiquity of imaging devices has led to “the democratization of photography”.

In addition to studying photography because it is inherently interesting, we will use photography as a “lens” for looking at nature. The goal is to get students to rethink the environment in which they live through the medium of pictures. The rationale is that photography causes people to slow down, scrutinize, and record what they see, as well as what they think they see - since the camera can capture things that are too fast, too slow, too far, too small, or too complicated for the brain to process during a routine encounter. This is taken to an extreme in astronomical photography or electron microscopy.

Students in this course will use their cameras to visually record their observations in the field. The pictures will then form the basis of a series of mini-research projects on individually chosen subjects. The goal is to greatly expand the photographer’s knowledge beyond what they could observe in a brief moment in time. We will emphasize the integration of pictorial with verbal descriptions, and personal observation with collective knowledge.

Emphasis will be placed on 1) retraining our attention and enhancing our powers of observation, 2) learning about the local natural environment, 3) effective visual expression, including integration of visual and verbal description in communicating science, 4) improving photographic technique. This class will cover a fair bit of biology and other topics in the natural sciences, but no prerequisites or prior knowledge of natural sciences is required.

This offering might be described as a course on “the photography of science” as opposed to say the science of photography or the art of photography, although these other elements will come into play as well.

The course is intended to be interesting, educational, useful, and fun. This will work best if each student contributes to the structure of the course and tries to function as a self-motivated scholar.

COURSE DIRECTOR

Robert Siegel

Robert Siegel is a Professor at Stanford in the Department of Microbiology and Immunology with secondary appointments in the Center for African Studies, the Master of Liberal Arts Program, the Woods Institute for the Environment, and The Program in Human Biology. His courses focus on virology and infectious disease, genetics and molecular biology, global health and development, photography, ecology, Darwin and evolution, and Stanford itself. For more than 20 years, he served as Course Director of the Infectious Disease component of the required preclinical curriculum at the Stanford University School of Medicine. He has recently completed book chapters on viral classification, vaccines to prevent viral cancers, and prions.

During the coronavirus pandemic, he has given numerous lectures and interviews and his writing appears in Medium, Fox News, and elsewhere.

<https://medium.com/@chickenpox>

<https://www.foxnews.com/person/s/dr-robert-david-siegel>

Dr. Siegel has taught the following Sophomore College courses: *The Stanford Safari* (2009 and 2013), *Smallpox: Lethal Legacy, Forbidding Future* (2010), *The Coming Influenza Pandemic* (2011), *Measles, Sneezes, and Things That Go Mumps in the Night* (2012), and *Viruses in the News* (2014, 2016, and 2018).

He has led eight BOSP overseas seminars: to Tanzania (twice), England, Madagascar (twice), the Pantanal, Tasmania, and Namibia. He has also served as Faculty-in-Residence at the Stanford Overseas campuses in Oxford, Santiago, and Cape Town. He has led multiple Stanford Travel Study trips to Tanzania, Papua New Guinea, the Galápagos, and Brazil.

Dr. Siegel has won numerous teaching awards including the Walter Gores Award, The Henry Kaiser Award, the ASSU Teaching Award, and most recently, the Northern California Phi Beta Kappa Teaching Award. His courses have been profiled in the book *InGenius* and in the *Huffington Post*.

Dr. Siegel has served in an advisory capacity for numerous international NGOs, organizations, and projects including: The Discovery Channel, Wonderfest, FACE AIDS, Support for International Change, Dr Ocean Medicine Foundation, Free the Children, Sage Bionet, and Teach AIDS. He is also a docent at Jasper Ridge Biological Preserve and at Año Nuevo State Park. He is a published photographer and poet. He is also an avid Dish walker and dromomaniac. (He has completed photographic explorations of seven continents and has taught field courses on six.)

Dr. Siegel's photographic work has been published in scholarly and popular books and journal articles, as well as numerous online sites. He has a quarterly photo essay "Our Wild Side" in *Punch* magazine.

Additional information about Dr. Siegel can be found on his web site:
<http://web.stanford.edu/~siegel/>

Numerous samples of his photographic work can be found at:
<http://web.stanford.edu/~siegel/photo.html>

A short travel blurb can be found at:
<http://web.stanford.edu/~siegel/travelblurb.html>

- Additional information can be found at:
- <https://www.sfchronicle.com/science/article/On-the-front-lines-The-dynamic-collaboration-15173260.php>
 - <http://web.stanford.edu/~siegel/bob/bob%20published/Robert%20Siegel%20PUNCH%20July%202020.pdf>
 - https://en.wikipedia.org/wiki/Robert_David_Siegel

FORMAT

Two sections of the course are being taught: one as a Stanford Undergraduate Introductory Seminar (IntroSem) and one as a Continuing Studies Program (CSP) course. Each section of the class will meet for one didactic session per week. In addition, students are required to conduct one field investigation per week.

The didactic session will be divided into presentations by the instructor, presentations by guest speakers, student presentations, and picture review. The IntroSem didactic session will be on Wednesday afternoons and the CSP section is on Wednesday evenings. The didactic sessions will be conducted remotely using Zoom.

The weekly field trips will be held on Saturday mornings. It is recommended that the field studies be conducted during the Saturday field trip. However, they may be carried out at any time as long as they allow adequate time for completion of the in-class assignments. (See separate Field Trip section for additional info.)

PREREQUISITES

The prerequisites for the course are 1) an interest in the topic, 2) a willingness to cover and learn the scientific underpinnings in this area of study, 3) an interest in getting out into nature, 4) flexibility in terms of scheduling, and 5) a willingness to allocate a substantial block of time each week for your field explorations.

There are no prior course prerequisites.

GRADING PHILOSOPHY

Continuing Studies students may take the course for No Grade or Credit/No Credit. Students are expected to be self-motivated and produce high quality work with emphasis on academic scholarship. A great deal of credit will be given to those students who show independent initiative.

Some Stanford undergraduate students may be taking the course for a Letter Grade. Differences in requirements will be explained further down on the syllabus.

COURSE EXPECTATIONS

For students taking the course for Credit

- 1) Virtual class attendance and participation
- 2) Oral presentations (1 per week after first session)
- 3) Selection and presentation of 3 images/comparisons per week
- 4) Post 3 pictures per week on a forum that is available to your fellow students such as iNaturalist
- 5) Flexibility

Supplemental assignments

(These may substitute for required assignments with permission from instructor)

- 1) Course blog - 1 per week
- 2) Blog commentary - 4 per quarter
- 3) Observations / Twitter – 1 per week
- 4) Instagram posts (or equivalent) - 1 per week
- 5) Photo exhibit

FLEXIBILITY

Flexibility is a course requirement. Flexibility is particularly pertinent with regard to the scheduling of field trips, the order and timing of student presentations, computer and projector idiosyncrasies in giving presentations, and small glitches in the syllabus.

ZOOM

In attending the remote zoom sessions, you will need the following:

- Ability to screen share your presentations.
- Ability to toggle the audio on or off (mute when you are not talking).

I would greatly prefer if you keep the video on, though you may use a fake background. At a minimum, you should be prepared to have a still image of yourself.

Class sessions will not be recorded.

EQUIPMENT

The course will deal with digital photography. A DSLR camera (or mirrorless equivalent) is preferable but not required. DSLRs have the advantage of being extremely versatile with a wide range of settings. They have the disadvantage of size, weight, cost, and complexity. The so-called “megazoom cameras” are an excellent compromise. Micro four-third cameras offer a similar degree of control as a DSLR but in a somewhat smaller size. Pocket point and shoot cameras and phone cameras also exhibit a series of advantages and disadvantages, but they may lack flexibility in approaching certain types of nature photography – and are therefore not entirely adequate for the purposes of this class.

COURSE TOPICS, THEMES, SKILLS, LANGUAGE METAPHORS AND VENUES

Each week we will explore a series of **topics, nature themes, techniques/skills, language metaphors, and locations**. These appear as a series of lists below, although the emphasis may change somewhat during the quarter. These will also serve as the basis for students’ weekly assignments. Please let me know of any additional items that you wish to have covered.

Topics (class sessions)

Introduction: photographing nature
Rethinking photography
iNaturalist
Dissecting the picture
The light room
Macro
Creativity
Research – the camera as a tool in science, citizen science
Equipment - What's in your bag? / care and feeding
Integration / exhibition

Nature themes (subject)

plants
inverts
birds
climate, weather, seasons
vertebrates
mushrooms
slimemolds
lichens
galls
sun, moon, stars
flowers
fungi
landscape, earth
people as nature
water
biogeography / bioblitz

Skills / techniques

Camera settings
Perspectives
Post-image processing
Observations
Lighting
Depth of field
Macro
Color
Contrasts
Movement
Change / interaction

Dissection and set up (alteration)
Photo sharing

Language Metaphors

Composition
Syntax
Grammar
Vocabulary
Style/voice
Creativity
Quick communication – Twitter
Email
Blog
Facebook
Diary/memory book/scrap book
Drafts
Op-Ed
The photo essay

Venues – Field explorations

Some suggested venues

The Arizona Cactus Garden
The Stanford Dish
Jasper Ridge Biological Preserve
Felt Lake
Renzel Wetlands
Año Nuevo State Park
Palo Alto Baylands / Duck Pond / Byxbee Park
Arastradero Preserve
Bean Hollow, Pescadero, or other beach site
San Bruno Mountain
The Stanford Quad and its surroundings
Back yard photography

Other possible venues:

Hellyer County Park
Windy Hill from Portola Road
Wunderlich Park
Don Edwards National Shoreline, Alviso
Pulgas Ridge Open Space
Santa Cruz Arboretum
Tilden Botanical Garden

Elizabeth Gamble Garden
Coyote Hills Regional Park
Crystal Springs Reservoir
Los Trancos
Foothill Park
Half Moon Bay Pumpkin Festival
Filoli Gardens
Sam McDonald Regional Park – bioblitz
Santa Cruz Fungus Festival

We would welcome additional suggestions from the students.

FIRST ASSIGNMENT

A pre-class assignment will be posted to Canvas. This assignment should be completed prior to the first day of class.

COURSE FIELD INVESTIGATIONS

Students are expected to get out in the field to take a series of pictures corresponding to the session assignments. We will visit selected locations that are particularly suitable for photographing various aspects of nature.

Potential field trip locations are listed above. A tentative schedule will be posted on the course spreadsheet and announced in class. I will also accept suggestions for optional field trips. The actual destinations and times will depend on the availability of transportation, football games, and other variables, most notably *weather*. Depending on the weather and the venue, the times and dates may change. Flexibility is one of the course requirements.

The field trips will be on Saturday mornings.

The meeting place will be specified on the course spreadsheet. The meeting time and duration is determined by the venue and the weather. Times will be decided/announced in class.

Logistics regarding the field trips will be posted on the class spreadsheet in Google Drive.

The information on the spreadsheet is subject to change.

→Please check the spreadsheet the evening before and the morning of each field trip for possible changes. The spreadsheet is also described in a separate section below.

In preparing for each field trip, please make sure you have 2 fully charged camera batteries, a fully charged phone, and an empty memory card. Remember to bring additional equipment as needed or desired, including a tripod, flash, additional lenses, kneeling pads, etc. In terms of clothing, it is preferable to wear closed-toe shoes or boots, long pants, and a hat. Also bring sunscreen, water, and snacks. Be prepared to encounter poison oak, bright sun, and uneven trails. I suggest you compose a personal checklist or “to do” list.

Please be respectful of the environment and of each other during these outings. Often during these trips, we will take pictures of each other and of the group. Please let me know if you are uncomfortable with having your picture taken. (Your instructor has a special fondness for pictures that include jumping and/or a small Darwin doll.)

LIABILITY WAIVER

Stanford requires all field trip participants to sign a liability waiver. This will be posted as an assignment on Canvas.

CHOOSING YOUR PRESENTATION TOPICS

Each session, every student will be required to give a presentation elaborating upon one of themes in this class. Your topic should be motivated by one or more images that you took during your field exploration. For example, starting with a picture of a western fence lizard missing its tail, one student did a presentation on tail regeneration in lizards.

In choosing your topic, do not begin with preconceived notions; rather let nature speak to you.

For each week and outing, there are a number of suggested themes. Depending on what we encounter, your topic need not conform to these themes. For example, the week’s theme may be plants, but you are motivated by an unusual beetle that you saw. The weekly themes are specified on the course Google Doc spreadsheet.

As noted in the spreadsheet section, topics are selected on a first-come-first serve basis.

ORAL PRESENTATIONS

Your presentation will elaborate upon the nature topic you have chosen for the week. You may use PowerPoint or other suitable presentation software.

Depending on your topic, you are welcome to use some or many pictures from the web. Please also incorporate text with conceptual ideas. If you choose to look at particular organisms, please identify the organisms, including their Latin names and their etymologies. Cultural and popular references often enhance the presentation. For example, give examples of how a particular creature is referenced in Shakespeare or in *The Lion King*.

→ Give the kind of presentation that you would like to listen to if you were in the audience. Sample presentations are available.

The presentations should integrate your pertinent photos with informative verbal content. Aside from quotes, terse bullet points usually work most effectively. Parsing of information can also enhance the quality of the presentation. In other words, do NOT put too much text on a slide. These points will be discussed in class.

Be sure to include

- 1) Title slide with presentation title, your name, date, course, *and a picture*.
- 2) Bibliography (web sites citations should include the date of accession)
The bibliography should come before the image comparison.

Prior to giving your presentations, be sure to look into the correct pronunciation of specific terms and organism names.

Your presentations should also be written up as below.

NB – When you give your presentations in class, you will often be surprised by the differences on the large screen compared with those on your computer. This is caused by a number of factors including differences in color calibration and especially the lower resolution of projected images. Projected images are often disappointing when compared with the same image on a computer screen or with a printed version.

PRESENTATION LOGISTICS

Prior to class, please upload your presentations to the shared Google Drive folder:

photographingnature@gmail.com. If you have difficulty uploading your presentations to Drive, you may email it to photographingnature@gmail.com.

Please also bring a copy of your presentation on your computer or on an external USB drive.

ORAL PRESENTATION NOTES

Oral presentation of your PowerPoint should run no more than 10 minutes, excluding discussion. The presentation should include the following:

- 1) Introduction of yourself
- 2) Why you chose this topic and why this topic should be of general interest
- 3) Introduction and/or background to the topic
- 4) Main content
- 5) Summarization of the key information
- 6) Questions

Additional suggestions:

- 1) Speak loudly and clearly
- 2) Emphasize key points
- 3) Define terms that are new or unfamiliar
- 4) Answer questions from the audience
- 5) Pose provocative questions to the other students
- 6) Stimulate discussion of the topic
- 7) You need not cover all aspects of your topic
- 8) However, you should paint a *complete picture* of whatever you do decide to cover
- 9) Do not concede your shortcomings or your audience will focus on them. For example, avoid saying "I am sorry I did not enough time to really understand what the authors were doing when they..."

WRITE-UPS

The write-up is an elaboration of the material presented in the PowerPoint presentation. The write-up should be content based *without repetition* in the introductions or summaries. Conclusions should be integrative and go beyond preceding material. The structure should be logical and clear. The style should be lively and engaging. Students are expected to do four write-ups during the course. Corrections made in class during the presentations should be included in the dossier versions of the presentation and in the write-ups. Other updates and revisions are welcome.

WEEKLY IMAGE COMPARISONS

Based on the theme of the week, each student will submit three (3) images or preferably, image comparisons prior to class. These will be reviewed in class by the members of the class, the instructor, and guest photographers. Some or all of these images may be the same as the images in your topic presentation.

Review images should be included at the end of your presentations – *after the bibliography*.

Review images should not use presentation templates or other distracting backgrounds.

Image comparison pairs allow students to investigate how various factors can impact the quality, clarity, and meaning of their pictures (e.g. – near vs far, various shutter speeds, various apertures, ground level vs eye level, different cropping, angle or composition, etc.) The most useful ways of presenting the images is as follows (4 slides):

- first image
- second image,
- both images (side by side),
- both images with metadata.

Labeled meta data should include with shutter speed, aperture, and ISO. Supplemental info such as the magnification (zoom), use of flash, and use of tripod may be included as well.

We will often begin by asking which image the other students prefer. You should vary whether you show your preferred image first or second. This will decrease viewer bias.

During the image review, the presenter/photographer will not be allowed to talk. The images should speak for themselves.

FILE SIZE

The images coming from the camera are often quite large especially if you shoot using a raw image format. This is great for image processing. For presentations and for the dossier, *you will need to reduce the size of each image*. The ideal size is 300 – 500 kb. This reduced size will facilitate faster loading and will allow your presentations to be emailable.

iNATURALIST

As you begin the class, it is highly recommended that you sign up for iNaturalist (free). We recommend that you have a copy on your computer *and* on your phone. On the computer, images can be uploaded simply by dragging and

dropping. Uploaded images must include location information. Depending on your camera, this information can upload automatically or may require manual input. On the phone, images may be uploaded directly through the iNat program.

Please add your iNaturalist name to the Google Drive doc.

Upload at least three images per class session. These may be the same images that you use in your presentations and/or photo review.

In conjunction with the course, I have set up an iNaturalist Project entitled: "Photographing Nature".

<http://www.inaturalist.org/projects/photographing-nature>

Ideally, your images will automatically appear in the class project site.

MEDIUM FORMAT ARTICLES (for letter grade)

Students are expected to write two articles to be posted on Medium or another approved online publishing platform. Articles should be around 800 words with some flexibility based on the content. More than a typical blog entry, your medium format article should be about your personal story or your opinion about some topic that is directly pertinent to some aspect of photographing nature. That is to say, the topic should be something that you would not be something you would have written about if you had not taken the class.) If you have any questions about whether or not your topic is pertinent, please ask Professor Siegel.

Additional credit is given for additional medium format articles.

DOSSIER (optional)

All students are required to keep a dossier of all their assignments and other work in the class. This should include copies of all your assignments and other work completed in conjunction with the course as well as photographs of all physical projects.

***Please turn in an **electronic and a hard copy version of your dossier**.

The electronic copy needs to be submitted via Canvas.

The dossier should include:

- Cover or folder
- Cover page with name, date, course, *and a photograph*
- A list of all work / table of contents
- Numbered pages
- Review pictures
- PowerPoint Presentations
- Topic write-ups

- Medium format articles
- iNaturalist postings, if appropriate
- A list of topics of particular interest in the course
- A list of notable course events
- How will you build upon this course - plan for the future
- List of any additional evidence of initiative and/or scholarship including articles or books you read.
- Blog postings
- Blog commentaries
- Instagram postings
- Twitter / observations
- Final exhibit photos

→Make it look pretty.

Sample dossiers are available for your perusal.

Please turn in your dossier by March 15, 2022.

Your photo files need to be reduced to a reasonable size so that your presentations and dossier files are not unwieldy.

You should also keep a permanent copy of your dossier for reference.

EMAIL

Communication with students and course announcements will often be delivered by email. Students are expected to check their Stanford accounts **every** day. You are expected to reply to group emails sent by the instructor.

When emailing information about the class, please use a descriptive subject line.

NAMING ATTACHMENTS

All files must follow the following naming convention:

course-yourname-document title or subject key words-draft version-date

For example:

“photographing nature – edwardmuybridge – mimosa – final draft – March 15, 2022.doc”

→ **Do not** name your file something like “siegel paper” or “final draft” or “presentation”.

→ **ALL FILE NAMES MUST INCLUDE YOUR NAME. REALLY! REALLY!**
This includes pictures, PowerPoints, dossiers, PDFs, EVERYTHING.

Additionally, if you are sending me a draft that is close in content to a previous draft, *please indicate the alterations* with the track changes command or comparable color annotation.

This naming convention pertains to files that are attached as well as files that are posted to Canvas.

Although this is longer and annoying, it is extremely helpful and descriptive.

→ Files that do not follow this convention will not be accepted.

CLASS ACCOUNT

There is a class account: photographingnature@gmail.com.

This account can be used for posting assignments by email or on Google Drive. All students will be invited to view the course spreadsheet and the course calendar that are associated with this account as well as the course folder for uploading your assignments. This will also be the account used for the course blog.

COURSE SPREADSHEET

I have created a course spreadsheet in Google Drive. All members of the class will be invited to participate. Please notify me *immediately* if you do not have access to the spreadsheet. It is helpful to have a gmail account to access the spreadsheet.

The spreadsheet contains important information regarding the course field explorations. It also includes the sign-up sheet for presentations. The spreadsheet also contains contact information, reference materials, and other useful course information.

The field exploration information on the spreadsheet is subject to change.
→ Please check the spreadsheet the evening before and the morning of each field exploration for possible changes. The spreadsheet is also described in a separate section below.

As soon as you have decided on your topic, enter it onto the spreadsheet. Check to see if anyone else has already chosen that topic. If your topic is already taken, *you must choose a different topic*. The person who enters the topic first, owns it.

COURSE WEB PAGE

Information on the course will also be posted on my personal course web page:

<http://www.stanford.edu/~siegelr/photonature>.

This includes a link to the iNaturalist project (below).

COURSE READING

The reading for the class will be done in conjunction with each of your individualized projects depending on the particular topic.

I have not assigned a specific textbook. There are many excellent books old and new that are pertinent. There are also countless online resources: webpages, podcasts, instructional videos etc. A few of these are listed in the bibliography. (See below.) I have a number of books in my personal library. Depending on your level of expertise and your specific interests, I can help you find instructional media that are suitable for your needs.

OFFICE HOURS

Your instructor and the teaching assistants will also be available by appointment.

CLASS BLOG: PHOTOGRAPHING-NATURE.BLOGSPOT.COM – supplemental

Students may post investigations on the class blog:
Photographing-nature.blogspot.com
(NB – be sure to include the hyphen.)

In addition, students may post comments on the blog posts of the other students.

OBSERVATIONS – supplemental

Observations are 1-2 sentence reflections on course material. Observation may be based upon the reading, web explorations, field work, student presentations, etc. Observations may be quite directed or highly reflective. Observations are posted on your individual Twitter account (described below).

TWITTER – supplemental

The class Twitter hashtag is #stanfordphoto.

To set up an account, go to <http://twitter.com/>

To post to the class twitter, begin your twitter with “#stanfordphoto.

CLASS INSTAGRAM (per SPR) - supplemental

The class Instagram account is @stanfordnature.
This account can be accessed using the phone app or via [instagram.com](https://www.instagram.com)

We are currently living in a golden age for photographic storytelling. No other time in history has it been so easy to connect with audiences from all walks of life all around the world. Visuals and writing are powerful tools for storytelling and the class Instagram will function as a way to practice the art of communication with an audience beyond the class itself.

Each student may post one favorite image from the class accompanied by a caption relating to an interesting finding about the subject of the image. Image captions should be a minimum of 2 sentences and related hashtags should be utilized in order to expand the reach of each post.

FINAL EXHIBIT - supplemental

Students will have the opportunity to combine, curate, and select pictures for display in a public exhibit. Details regarding printing and mounting will be updated during the class. The venue for the exhibit will be discussed in class.

GUEST PHOTOGRAPHERS

We may have guest speakers and/or preceptors with various areas of expertise. These “guest photographers” will be coming in to carry out one or more of the following roles:

- Providing in-class talks about specific aspects of photography
- Discuss their experiences in photography and sharing some of their photographic work
- Serving as guest critics of student work

- Making suggestions about equipment, settings, or subject material
- Serving as content experts in the field to answer questions about the aspects of nature we will encounter on outings

They are all volunteering their time and effort so we will accord them the highest level of courtesy and respect. Please be understanding with regard to the fact that some of them may overlap in terms of their presentation content and in terms of the fact that the sequencing of their talks may not always be optimal due to the vagaries of peoples travel and work schedules. The details of who will be speaking when can be found online on the Google spreadsheet for the course and will be updated on an ongoing basis.

Potential guest photographers/naturalists include:

- Jennifer Rycenga
- Jack Owicki
- Syler Peralta-Ramos
- JJ Johnson
- Merav Vonshak
- Alan Siegel
- Ellyn Bush
- Tom Davis
- Richard Roth
- Joel Simon

POTENTIAL QUESTIONS FOR SPEAKERS

Why do you take pictures?

When did you start?

What was/is your inspiration? / Who was/is your inspiration?

What are your favorite subjects / types of photography?

What is in your bag?

What is your favorite piece of equipment?

What is your next piece of equipment to get?

What is your favorite “trick”?

What did you learn the hard way?

How do you save/store/archive your pictures?

What editing software do you use?

What are some advantages and disadvantages of eye and brain over camera and computer?

Best experience(s)?

Worst experience(s)?

What is your photographic dream?
How does photography fit in with your work or other parts of your life?
What have you learned about nature from your photography?
What online or printed resources have been most helpful in learning about your photographic subjects?
What makes a great picture?
How do you “read” a picture?
Any other advice for aspiring photographers?

FEEDBACK, SUGGESTIONS, CONCERNS:

Seminar suggestions are most welcome. Please let the instructor know of any problems or concerns as soon as possible. I will try to implement appropriate remedies.

DISH WALKS AND ADDITIONAL OUTINGS

Several times per week, usually in the afternoon, I walk the Stanford Dish loop or visit Renzel Wetlands. You are invited to join me on these walks for conversation, photography, advising, a bit of exercise, or just getting out into nature.

PERMISSIONS

I sometimes use student presentations as demonstrations or as parts of my presentations - with attribution.

If you have any preferences regarding the possible use of your work, please let me know (especially emphatic no's or emphatic yes's I will not use any work that you prefer not to share).

BEYOND *PHOTOGRAPHING NATURE*

Following the course many students have stayed involved in a number of ways.

- continuing to post to the *Photographing Nature* iNaturalist Project
- becoming Teaching Assistants
- coming on field trips for future editions of the class
- organizing group outings and meet-ups
- apprising fellow students of relevant events in the community
- becoming docents at Jasper Ridge or elsewhere

Please let me know if I can facilitate any of these endeavors.
Also, I am in the process of creating an amalgamated Photographing Nature listserv. Please let me know if you do or do not want to be part of this.

PHOTOGRAPHING NATURE RESOURCES

JOEL SIMON'S PHOTOGRAPHY 101

Four short videos:

<https://www.youtube.com/playlist?list=PLkCqtkRNkFgAyr4AflzBAirPDd6GWxiDP>

LISTSERVS

Digital Photography School has an email listserv that is free and contains many useful photography tips, often in list form - e.g. "3 Mistakes that Kill Image Quality (and How to Avoid Them.)"

PODCASTS

This Week in Photography (TWiP) – Frederick van Johnson

TED Talks: "David Griffin: How photography connects us"

http://www.ted.com/talks/david_griffin_on_how_photography_connects.html

Tips from the Top Floor - Chris Marquardt

<http://www.tipsfromthetopfloor.com>

ONLINE PERIODICALS

Nature Photographers

<http://www.naturephotographers.net/enter.html>

BACKGROUND READING IN PHOTOGRAPHY

The good news is there are many outstanding books, articles, and web resources.

The bad news is the abundance is overwhelming.

Here is an excellent review of 8 books that may help you decide:

<http://www.naturephotographers.net/articles0306/pf0306-1.html>

National Geographic is often considered the gold standard for nature photography and they publish a series of useful books (with admittedly pretentious names). For example:

National Geographic Ultimate Field Guide to Photography: Revised and Expanded (Photography Field Guides) - National Geographic, 2009

Stuckey, Scott *National Geographic Ultimate Field Guide to Travel Photography* (Photography Field Guides) - National Geographic, 2010

In terms of lens and settings, I have enjoyed the Canon published book *EF Lens Work III: The Eyes of EOS* March 2011, Thirteenth edition

Many former students have found the following book to be particularly helpful:

The New Art of Photographing Nature: An Updated Guide to Composing Stunning Images of Animals, Nature, and Landscapes by Art Wolfe, Martha Hill, and Tim Grey - 2013 - Paperback

Below is a random assortment of other possibly helpful books (which I happen to own, and you may borrow.) Some are old, from my father, but many of the principles are enduring.

Frost, Lee *50 Photo Projects: Ideas to Kick-Start Your Photography*

Nuridsany, Claude, and Mariew Pérennu *Photographing Nature: From magnifying glass to microscope*

Lefkowitz, Lesler *The Manual of Close-Up Photography*

Norton, Boyd *Wilderness Photography*

Stokes, Edward *Exploring Landscape Photography*

Reynolds, Garr *presentationzen*

CITIZEN SCIENCE

iNaturalist

<http://www.inaturalist.org/>

Bug Guide

<http://bugguide.net/node/view/15740>

What's that bug?

<http://www.whatsthatbug.com/>

Mushroom observer

<http://mushroomobserver.org/>

eBird - The Cornell Lab of Ornithology

<https://ebird.org/home>

OTHER WEBSITES AND RESOURCES ON PHOTOGRAPHY

Websites:

Nature Photography - Wikipedia

http://en.wikipedia.org/wiki/Nature_photography

This week in Photography

<http://www.thisweekinphoto.com/>

Birds of Stanford

<http://www.stanford.edu/group/stanfordbirds/>

Nature photographers – Wikipedia

http://en.wikipedia.org/wiki/Category:Nature_photographers

PHOTO SHARING

I often get inspiration (and intimidation) by looking at great pictures from other people. There are many examples, including some from Facebook.

Facebook birders highlights:

https://www.facebook.com/groups/2204629517/?multi_permaLinks=10157432810589518¬if_id=1565872287088691¬if_t=group_highlights

And for the rest of us, there is:

Shitty bird photos:

<https://www.facebook.com/groups/sh1ttybirdphotos/>

INDIVIDUAL WEBSITES

Syler Peralta-Ramos
<https://sylerpr.com/>

Dan Quinn
<https://capturethelight.zenfolio.com/>

Joel Simon
<http://www.joelsimonimages.com/>

Tom Merigan
<http://www.pbase.com/merigan>

Lubert Stryer
<http://www.stryerphoto.com/>

Klaus Porzig
<http://klausporzigphotography.com/galleries/wildlife>

Stuart Koretz
<http://www.stuartkoretzphotography.com/-/stuartkoretzphotography/>

Richard Roth
<http://www.flickr.com/photos/60519499@N00/>

Clyde Butcher – Wikipedia
http://en.wikipedia.org/wiki/Clyde_Butcher

Art Wolfe
<http://www.artwolfe.com/>

Frans Lanting
<http://www.lanting.com/>