

Instructor: Michael Arden ardenm@usc.edu 323.359.3550

3 units No prerequisites Fall Semester 2021

Lectures: Thursdays. 6:00 - 8:50PM Lecture Location: WAH B2 (Photo Lab)

Office Hours: Thursday 2:30-3:15 or by appoinment.

IT Help: Depak Shirke dshrke@usc.edu



CALENDAR
COURSE DESCRIPTION
CLASS POLCIES
ASSIGNMENTS
CAMERA, FILM & DIGITAL SUPPLIES
EXPOSURE
LOG SHEETS



WEEK	DATE	TOPIC
1	8/26	INTRODUCTION- Film, Digital, Light and Exposure
2	9/2	LEARNING TO LOOK AT YOUR FILM Comparison of Film vs. Digital
3	9/9	Assignment 1 due. More 35mm FILM TECHNIQUES Dusk shoot ON CAMPUS
4	9/16	Assignment 2 due Introduction of DSLR Techniques Introduction to Lightroom and monitor calibration
5	9/23	Assignment 3 due and work on midterm project Watch Visual Acoustics, The Modernism of Julius Schulman. On Netflix or Amazon. Write a 1-page paper
6	9/30	Midterm Project Presentation
7	10/7	Presenting the 4x5 camera and group 4x5 shoot Creating 4x5 small groups.
8	10/14	Assignment 5 and 6 is due Lightroom Develop Module Assignment 7 due
9	10/21	Advanced 4x5 and Advanced DSLR Assignment 8 due
10	10/28	Advanced DSLR & Printing Assignment 9 due
11	11/4	Final project support Assignment 10 due
12	11/11	Final Project support FIELD TRIP (on Sat. or Sun.) If we are allowed
13 14 15	11/18 11/25 12/2	FINAL PROJECT REVIEW THANKSGIVING HOLIDAY FINAL PROJECT REVIEW
FINAL	12/9	FINAL 7-9 PM



COURSE DESCRIPTION

35MM PHOTOGRAPHY PRINCIPLES AND TECHNIQUES

In this course we will utilize a series of assignments to facilitate your learning of classroom lessons with film and 35mm SLR cameras.

THE AMAZING SINAR 4x5 LARGE FORMAT CAMERA WITH FILM AND SINAR ARTEC, A MILESTONE IN DIGITAL ARCHITECTURAL PHOTOGRAPHY

This format camera has been used since the beginning of commercial photography. Not only does this camera allow a larger image area, it has the ability to correct distortion and parallax problems. In architecture, this is a must. This camera is not only a tool for parallax distortion but will teach you to see light.

Small groups of 3-5 students will each have a Sinar 4x5 camera to use and work with.

LIGHTROOM AND 35MM DIGITAL ARCHITECTURAL PHOTOGRAPHY

The student will become a highly competent creative digital photographic image creator with accurate exposure, proper color correction, and excellent printing output. You will master Adobe Lightroom CC Library and Development modules as well as successfully integrate specific digital tools for architectural image such as free-transform/HDR.

Upon completion, each student will possess the following skills:

- Comprehensive understanding of architectural lighting.
- Comprehensive understanding of film, exposure and light balance.
- 4x5 camera functions and parallax corrections
- Heightened sensitivity to light and how it strengthens architectural design
- Ability to use High Dynamic Range (HDR): multiple exposures to create dramatic architecture/interior images without additional professional lighting.
- Control of Parallax (Free Transform Procedure) to correct distortion and perspective so buildings do not look like they are leaning to one side or falling back.
- Creation of exceptional images with light and architecture, including dusk imagery.
- Advanced amateur use of most Single Lens Reflex (SLR) digital camera functions, including: shooting raw, processing in Adobe Bridge and Photoshop CS6, batch processing, organization, color temperature, exposure/histograms, color management (curves/levels).
- Advanced use and knowledge of Adobe Lightroom CC.
- Knowledge of how to do a monitor calibration.
- Advanced eleven color profiled printing



REQUIREMENTS/ITEMS YOU NEED TO KNOW

Software Requirements:

- 1. Adobe Lightroom Classic (not Lightroom Creative Cloud) and Adobe Photoshop CC. Must have a current account with Adobe.
- 2. Photomatix Pro 6.2, Student pricing is 75% off. Go to: https://www.hdrsoft.com/order/academic.html#photo_student

Camera Requirements:

- 35mm Digital Single Lens Reflex (DSLR) camera or newer mirrorless cameras. We will discuss the first day of class for those of you who have not yet purchased. Please see announcement on Blackboard for further information.
- 2. 35mm SLR film camera with complete manual functions. See Blackboard information. We have some to check out if you are near campus.
- 3. Tripod See content in Blackboard.
- 4. Camera flash card 16-32 GB
- 5. External hard drive for Lightroom- optional.

Required Reading:

 Mandatory Text: D-65's Lightroom Workbook, Workflow, Not Work Slow in Lightroom 4 (2012) by Seth Resnick and Jamie Spritzer. It will be provided as a PDF on Blackboard this year.

Always:

- 1. Always have your Log sheets and cameras to class. I cannot help you without your specific camera.
- 2. Always have computer with Lightroom
- 3. Assignments are to be turned in on the due date. If you are a week late your grade will drop one letter.

Equipment and Film:

- 1. Samy's Camera, 431 S. Fairfax Ave. 323-938-2420
- 2. The Icon Lab, www.iconla.com, 5450 Wilshire Blvd. 323-933-1666



Text and Reading Materials

Required:

Seth Resnick and Jamie Spritzer, *D-65's Lightroom Workbook, Workflow, Not Workslow in Lightroom 4* (2012) It will be provided as a PDF on Blackboard this year.

Joseph Rosa and Esther McCoy, *A Constructed View: The Architectural Photography of Julius Shulman*,(2008, Rizzoli International Publications). ISBN: 0847817776 (on sale on Amazon for \$29.95

Seth Resnick and Jamie Spritzer. The Free PDF for Lightroom 6

Jim Lowe, *Architectural Photography Inside and Out* (2006 Photographers Institute Press) ISBN:1861084471

Film vs. Digital by Ken Rockwell http://www.kenrockwell.com/tech/filmdig.htm

Reading Recommended:

Richard Ross (Photographer), Architecture of Authority (2007, Aperture).

ISBN: 1597110523

Gerry Kopelow, Architectural Photography: The Digital Way (2007, Princeton

Architectural Press). ISBN: 1568986971.

Michael Harris, Professional Architectural Photography, Third Edition (2002, Focal

Press).

ISBN: 0240516729

William Flusser, Towards a Philosophy of Photography (2007, Reaktion Books), ISBN

1-861890-76-1



CLASS POLICIES

STUDENT RESPONSIBILTIES & GRADING

Grades: A = 95–100; A-= 90–94; B+ = 87-89; B = 83-86; B- = 80-82; C+ = 77-79; C = 73-76; C- = 70-72.

Active Participation & Attendance –10%

This is a small class and your presence is necessary. Attendance will be taken. If you do miss class it is your responsibility to obtain any information (from another student). If for some reason you find that you *must* be absent or late it is essential that you notify me in advance by email. Active participation includes weekly-prepared questions.

Please see USC School of Architecture's attendance and grading policy on the following page.

Assignments – 20%

Assignments must be turned in on time. These are not graded on quality. These assignments are for your learning. They will be downgraded if they are not turned in on time or they are missing. If you were unsuccessful with a part of any assignment you will need to submit a redo. You are expected to keep these assignments in a notebook.

Midterm - Slide Show - 20%

You will select a building or structure of your choice and present 15-20 of your best images capturing your subject in the morning, afternoon and evening light as well as dusk and interior images. You should anticipate having to visit your selected location three to four times. Here you will be graded on the quality of your images.

Paper – Visiting a Photo Exhibition -10%

Please submit a two-page double spaced paper including what your saw and where. Information about the exhibition and what you felt in your own words. Then be sure to bring some of your newly learned photographic knowledge to your discussion of the body of work you perused.

Final Projects – 40%; 20% 4x5, 20% digital project.

Each Group will turn in a minimum of six 4x5 transparencies of the highest quality. They must include images from a minimum of two different subjects. A dusk image and interior image must be represented. Both Daylight and Tungsten film must be utilized.



USC GENERAL POLICIES

School of Architecture Attendance Policy

The School of Architecture's general attendance policy is to allow a student to miss the equivalent of one week of class sessions (for this course you may miss one time) without directly affecting the student's grade and ability to complete the course (this is for excused absences for any confirmed personal illness/family emergency/religious observance or for any unexcused absences). For each absence over that allowed number, the student's letter grade can be lowered up to one full letter grade. Attend all Zoom meetings with your video on. If you have a time zone conflict or a video issue, please contact me to discuss accommodations.

Statement on Academic Conduct and Support Systems Academic Conduct:

Plagiarism – presenting someone else's ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in *SCampus* in Part B, Section 11, "Behavior Violating University Standards" https://policy.usc.edu/scampus-part-b/. Other forms of academic dishonesty are equally unacceptable. See additional information

in SCampus and university policies on scientific misconduct:

http://policy.usc.edu/scientific-misconduct.

Support Systems:

Student Counseling Services (SCS) - (213) 740-7711 – 24/7 on call

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention. https://engemannshc.usc.edu/counseling/

National Suicide Prevention Lifeline - 1-800-273-8255

Provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week. http://www.suicidepreventionlifeline.org Relationship & Sexual Violence Prevention Services (RSVP) - (213) 740-4900 - 24/7 on call Free and confidential therapy services, workshops, and training for situations related to gender-based harm. https://engemannshc.usc.edu/rsvp/

Sexual Assault Resource Center

For more information about how to get help or help a survivor, rights, reporting options, and additional resources, visit the website: http://sarc.usc.edu/

Office of Equity and Diversity (OED)/Title IX compliance – (213) 740-5086

Works with faculty, staff, visitors, applicants, and students around issues of protected class. https://equity.usc.edu/

Bias Assessment Response and Support

Incidents of bias, hate crimes and microaggressions need to be reported allowing for appropriate investigation and response. https://studentaffairs.usc.edu/bias-assessment-response-support/

Student Support & Advocacy – (213) 821-4710

Assists students and families in resolving complex issues adversely affecting their success as a student EX: personal, financial, and academic. https://studentaffairs.usc.edu/ssa/ Diversity at USC Tabs for Events, Programs and Training, Task Force (including representatives for each school), Chronology, Participate, Resources for Students. https://diversity.usc.edu/



ASSIGNMENTS

READING

Read pages 43-99 (chapter 4-6) in *D-65's Lightroom Workbook. Due 9/2* Read pages 101-196 (Chapter 7) in D-65's Lightroom Workbook. Due 9/16 Read pages 101-196 (Chapter 7) in D-65's Lightroom Workbook. Due 9/30 Read pages 196-315 in D-65's Lightroom Workbook. Due10/21 Read pages 421-500 in D-65's Lightroom Workbook. Due 11/4

ASSIGNMENT ONE:

PART I TROUSDALE AVENUE ON CAMPUS

- 1. Need a roll of E-6 daylight 100 ISO (Fuji 100Provia).
- 2. Fill out a shooting log.
- 3. Frame numbers 1-5: using your camera's light meter take a meter reading of an 18% gray card. Frame 1: open your lens up two stops from your meter reading and shoot. Frame 2: one stop open(MORE LIGHT) from your meter reading and shoot. Frame 3: shoot at your meter reading. Frame 4: close down one stop from your meter reading and shoot. Frame 5: two stops closed from your meter reading and shoot. (In full sun if possible). *Open* means more light, more exposure time with shutter speed or larger aperture opening). "Closed" is less light, a shorter exposure time (shutter speed) or smaller aperture opening
- 4. Frame numbers 6-9: shoot a building from a distance of 20 feet, 40 feet, 80 feet and 160 feet.
- Frame numbers 10-15: photograph an entire building in full sun light and in open shade (show some sky). Bracket your exposure one stop over, one stop under and then meter reading.
- 6. Frame numbers 16-19: find details like a door, window or gargoyle that is in full sun. Shoot this at a shutter speed of 1/125 and an aperture of f8, f11, f16 & f22 (not all lenses have f22).
- 7. Frame numbers 20-23: now shoot the previous image (still in full sun) at an aperture of f16 and a shutter speed of 1/30, 1/60, 1/125 & 1/250. Hold still when shooting at 1/30.
- 8. Frame numbers 24-28: shoot any five detail shoots (a door, window, steps.) Make sure some are extreme close-ups.
- 9. Frame numbers 29-36: for the rest of the roll shoot any images you like they must include some from a very low angle, some from a very high angle, up a few floors and any other ways that are highly creative.
- 10. Take your film to an E-6 processing lab and run it normal ("N".) Do not mount. Make sure it is sleeved.

PART II

- 1. Bring in at least 2 pictures from architectural/interior magazines that interest you or you want to know how it was accomplished. Maybe find a structure from you home city.
- 2. Bring 3 questions type-written about your assignment or any photography related problem.



ASSIGNMENT Two:

PART I

- 1. Need two three rolls of E-6 daylight ISO 100
- 2. Fill out a shooting log.
- 3. Be creative, artistic, playful, experiment with low angles, high angles, placement of objects, colors, shadows, textures, highlights, time of day, motion, different focal lengths and filters.
- 4. Use at least 9 frames to describe depth of field.
- 5. Use at least 10 frames for dusk or dawn images. (Need a tripod, cable release and long exposures)
- 6. Use at least 5 frames to shoot under fluorescent light.
- 7. Use at least 5 frames to shoot under fluorescent light using a 30 magenta filter.
- 8. Shoot image of possible midterm projects sites
- 9. Process "N" and do not mount.

PART II

- 1. Type a list of at least 5 locations/buildings you like.
- 2. Bring 3 questions (written) about your assignment or any photography related problem.

PART III

- 1. Install Lightroom Classic
- 2. Read Chapters 1-3 in D65 texbook (PDF is in content section of Blackboard) Read and peruse all images in *A Constructed View: The Architectural*

Photography of Julius Shulman (you can purchase this book or peruse in the library or lab).

Assignment Three:

Part1.

Shoot 2-3 rolls of the building you choose for your midterm project. Keep accurate log sheets.

Part 2:

Have digital cameras ready to use. Assignment six will include digital assignment to familiarize yourself with your DSLR

.



Assignment Four

Watch the movie/documentary VISUAL ACOUSTICS: THE MODERNISM OF JULIUS SCHULMAN

This on Amazon, Hulu and many other servers. The Arch library also has a copy.

Julius Schulman is known as the father of Architectural Photography. He created a **Bridge** for the everyday person to cross to see and begin to understand modern architecture. In fact, he is probably the reason you might be excited to be in the field of architecture. Most everyone has seen his iconic image of case study house #22 overlooking Los Angeles at night. Prior to Julius most architecture was seen as a rendering unless you were lucky enough to travel the world, which of course was difficult in the 1940's thought 1960"s.

This documentary has received a huge amount of praise.

Please take time to be present when you are watching this film and allow Julius to speak to you from his creative heart.

Paper: Due DBT

Please write a one-page paper on your experience perusing this documentary.

Bring a hard copy of the paper to class to turn in.

Assignment Five: Midterm Slide Presentation

Assignment Six:

- 1. First read your camera's manual and familiarize yourself with your camera's settings.
- 2. Fill out a log sheet for all images.
- 3. Shoot a gray card or grey object (sweatshirt) at 2 stops open, 1 stop open, normal, 1 stop closed, 2 stops closed. (This should come back as a gray image from light gray to dark gray). This will test our understanding of manual camera operations, exposure knowledge and if you have your settings off of "auto".
- 4. Select a location where you can shoot the same image many times during full sunlight. This image should be an interesting piece of architecture or a detail.
- 5. Resolution: shoot your image with the maximum resolution, medium and minimum.
- 6. Compression: Shoot your image again in high, medium and low.
- 7. ISO: Experiment with at least 4 different ISO settings of the same image from low to high (100-3200 or some cameras go as high as 128,000)
- 8. Color temperature: experiment with all the color balance modes.
 - a. (Tungsten, daylight, fluorescence, flash, cloudy, etc.)
- 9. Exposure: bracket your exposure one stop over, normal and one stop under. Use a gray card and Macbeth color chart & white balance if you have one.



10. Upload to LR and send a link with metadata info.

ASSIGNMENT Seven:

Shoot at least two 4x5 Color Transparencies and process

ASSIGNMENT Eight:

Part 1 - Read Chapter 8, The Develop Module, in D65 Lightroom workbook

Part 2 - Begin assignment Ten

Part 3 - Shoot At Least Two Color 4x5 Images and Process

ASSIGNMENT Nine:

Part 1 - Shoot At Least **Two** Color 4x5 Image and Process Finish processing remaining transparencies from previous assignment.

Part 2 - Visiting a Photo Exhibition and Written Paper (Graded)
Continue working on assignment Ten

ASSIGNMENT Ten:

Find a contemporary building and an historic building in downtown LA or by USC. Shoot many images for classic and modern. Select your best 5 from classic (old) and your best 5 for Modern (transparent/reflective). Process all 5 to the best of your ability using all that you have learned in Lightroom/Photoshop. Then process 1 image from each of Classic and Modern and process it 5 times (virtual copies) with at least 10 items in your history and make at least one copy B&W (use color channels to enhance). For the week of 3/29 you will deliver one image for each of your buildings as HDR, meaning take three frames of the same image (best not to be dusk shots for this). Shoot 2 stops under - exposed, Normal, and 2 stops over - exposed. You need to find your auto exposure bracketing or else bracket manually using shutter speed not aperture and on a tripod.

Midterm and Final Projects



Midterm Project:

Create 20 amazing images from a building of our choice. Your transparencies should be mounted so we can present a slide show (Covid times you will have scans and process them in Lightroom). Please find out some information about the building you choose to capture, such as the architect, location and the date built. Be prepared to talk about your experience while shooting and why you chose a particular film or exposure.

You need to have at least one interior image. It can be shot from outside but must capture some interior lighting. You need at least one image that is Tungsten balanced (most dusk images are Tungsten). You need to shoot at least three dusk or dawn images. You need to shoot your subject at different times of day/dusk/night. At least three different times must be represented.

On the day of our slide show please bring in your notebook with all your assignments in plastic sleeves. You will also need to have a page with your slide presentations and another page of your next best 20 images.

Visiting (virtual) a Photo Exhibition and Written Paper Due DBT

Please submit a two-page double spaced paper including what your saw and where. Information about the exhibition and what you felt in your own words. Then be sure to bring some of your learned photographic knowledge to your discussion of the body of work you perused. You may also include an insert of an image from this exhibition if possible (This can be on a third page). **Important:** please submit your paper on paper to me and also download it on the lab computer as well in the desktop folder labeled "**Paper**".

Final Project: presented

Part 1:Each group will turn in a minimum of 3-4 4x5 transparencies of the <u>highest</u> quality. Both a dusk image and interior image must be represented.

Part 2:Create a dynamic photographic documentation of an architectural setting, a commercial building, residence or complex. You will turn in a maximum of 20 images. These are to be of the highest quality. See Details below.

Part 3:Print two images 13x19 of the highest quality; one as a Color print and one as a Black & White print.

FINAL PROJECT DETAILS



Discussion and development of individual final projects, including documenting a specific architectural project, studying the natural and available light, and utilizing all the tools and ideas presented to create 20 excellent images that tell a story of the chosen structure.

.

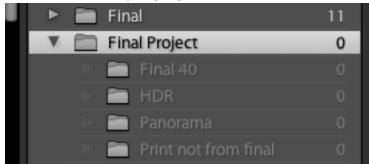
Under your name in your Lightroom create the following:

Folders: Final Project

Subfolders: **HDR**-processed and 3 (a min. of 2 images and up to 10)

Panorama- all 3 or more images and processed panorama

Final 20-40



*Since some of your finals will be in the HDR and panorama you do not have to have the full 20 showing in "final 20-40" folder. Mark the ones you will be using in your HDR and Panorama by using a color label. Then make certain (or you will be downgraded) your final 20 are in the collections area in the USC 421 folder and in a subfolder that is labeled with your name.

This is what is needed as a minimum in your final project:

- 4 Dusk Images
- 6 Free Transform at least 4 must be done in Photoshop.
- 4 HDR (not more than 10 HDR) Processed in Photomatix
- 1 B&W (not more than 5 B&W)
- 1 Panorama with 3 or more images (not more than 2 panoramas)
- 4 A maximum of 4 images over processed in HDR or in the LR Develop Module **Key wording** on all images must include: architect/location/building name and date built.

In the **Caption** box area in metadata note each of the criteria your image has from the above list (Ex. HDR, LR FT, CS6 FT, Day, Tung, Dusk, Pano, B&W)

Prints: Make one B&W and one color print. Minimum size is 13x19. Matte or Luster paper

One print may be from a location other than your final project. If you elect to do this make certain you are choosing an exceptional image and also place in an additional subfolder.

FIELD TRIPS



4x5 shoot one #1

On Campus TBD

We spend four hours practicing our skills on the 4x5 camera. We utilize shifts, tilts, swings and the rise mechanism to create perfectly straight images of architecture. We breakout into groups of 3-4. The students are allowed to discover the images they wish to take and then instruction is added to help achieve their shots. They have to deal with available lighting and determine proper exposures for sun, shade or open shade. Given this is a public area they must also learn to contend with the surrounding environment full of people and vendors.

Field trip 4x5 Shoot #2 TBD- (Sat or Sunday from 4-8pm)

Private residence or commercial site.

We explore capturing an architecturally significant home or commercial space. All types of professional lighting are discussed. Then with minimal lighting we work at creating an amazing dusk image merging daylight, available light (built in) and a few additional added lights. Students decide on angles and exposure. Demonstrations on lighting techniques are presented and explored.

Helpful Info

DPREVIEW.com for all camera comparisons



High Dynamic Range – Photomatix Pro: http://www.hdrsoft.com/

Tutorials on Photoshop:

http://russellbrown.com/tips_tech.html

Memory Cards,

Bigger is not better- would not shoot one continuous roll of film- stuff happens 4 Gigs is good if you have a 23mp camera maybe 8 gigs or for video 16 or 32. Change cards every so often... retire them or for back up. Just like a hard drive. It will break at some point Don't get to that point.

Never shoot near the end or erase at end to add more. Always format every time to ensure correct file structure. Speed is dependant on controllers in card and your camera matching.

ISO- higher the more noise (electronic error) you can fix it but much better to prevent it. Always set to no higher than is necessary. We shoot architecture on a tripod so the ISO can be low most of the time (ISO 100).

Histograms- correct exposure is vey important. Though digital is more like negative film better leeway and error toward overexposure.

There is no such thing as a perfect histogram. We need to interpret the histogram to what you are shooting. If your scene is all black and white your histogram would look like a goal post.



	Library S	hortcuts	
View Shortcuts		Photo Shortcuts	
Esc	Return to previous view	Command + Shift + I	Import photos
Return	Enter Loupe or 1:1 view	Command + Shift + E	Export photos
G	Enter Grid Mode	Command + [Rotate left
E	Enter Loupe view	Command +]	Rotate right
C	Enter Compare mode	Command + E	Edit in Photoshop
N	Enter Survey mode	Command + S	Save Metadata to File
Command + Return	Enter Impromptu Slideshow mode	Command + -	Zoom out
F	Cycle to next Screen Mode	Command + =	Zoom in
Command + Option + F	Return to Normal Screen Mode	Z	Zoom to 100%
L	Cycle through Lights Out modes	Command + G	Stack photos
Command + J	Grid View Options	Command + Shift + G	Unstack photos
J	Cycle Grid Views	Command + R	Reveal in Finder
\	Hide/Show the Filter Bar	Delete	Remove from Library
		F2	Rename File
Rating Shortcuts		Command + Shift + C	Copy Develop Settings
1-5	Set ratings	Command + Shift + V	Paste Develop Settings
Shift + 1-5	Set ratings and move to next photo	Command + Left Arrow	Previous selected photo
6-9	Set color labels	Command + Right Arrow	Next selected photo
Shift + 6-9	Set color labels and move to next photo	Command + L	Enable/Disable Library Filters
0	Reset ratings to none		
	Decrease the rating	Panel Shortcuts	
ì	Increase the rating	Tab	Hide/Show the side panels
		Shift + Tab	Hide/Show all the panels
Flagging Shortcuts		T	Hide/Show the toolbar
	Toggle Flagged Status	Command + F	Activate the search field
Command + Up Arrow	Increase Flag Status	Command + K	Activate the keyword entry field
Command + Down Arrow	Decrease Flag Status	Command + Option + Up Arrow	Return to the previous module
Target Collection Sho	ortcuts		
В	Add to Target Collection		
Command + B	Show Target Collection		
Command + Shift + B	Clear Ouick Collection		



	Develop	Shortcuts		
Edit Shortcuts		View Shortcuts		
Command + U	Auto Tone	Tab	Hide side panels	
V	Convert to Black and White	Shift + Tab	Hide all panels	
Command + Shift + U	Auto White Balance	T	Hide/Show toolbar	
Command + E	Edit in Photoshop	F	Cycle screen modes	
Command + N	New Snapshot	Command + Option + F	Go to normal screen mode	
Command + '	Create Virtual Copy	L	Cycle Lights Out modes	
Command + [Rotate left	Command + Shift + L	Go to Lights Dim mode	
Command +]	Rotate right	Command + Option + Up Arrow	Go to previous module	
1-5	Set Ratings	Command + I	Show/Hide Info Overlay	
Shift + 1-5	Set ratings and move to next photo		Cycle Info Overlay	
6-9	Set color labels	Command + J	Develop View Options	
Shift + 6-9	Set color labels and move to next photo	1 - Handbart restauration content / 27 cm.		
Command + Shift + C	Copy Develop Settings Adialog will come up asking which settings to copy.	Mode Shortcuts		
		R	Enter Crop Mode	
Command + Shift + V	Paste Develop Settings	Q	Enter Spot Removal Mode	
		M	Enter Graduated Filter Mode	
Output Shortcuts		K	Enter Adjustment Brush Mode	
Command + Return	Enter Impromptu Slideshow mode Shows the current selected photos in a slideshow based on the current Slideshow module settings.	D	Loupe View	
Command + Netum		Y	View Before and After left and right	
		Option + Y	View Before and After up and down	
Command + P	Print selected photos	Target Collection Shortcuts		
Command + Shift + P	Page Setup	В	Add to Target Collection	
		Command + B	Show Target Collection	
Navigation Shortcuts		Command + Shift + B	Clear Quick Collection	
Command + Left Arrow	ommand + Left Arrow Previous Photo			
Command + Right Arrow	ommand + Right Arrow Next Photo			