

Underwater Photography - Syllabus

COURSE AIM

To teach the basic use of a compact digital camera and housing to students with little or no knowledge and experience of underwater photography.

DURATION

One day plus. The course requires half a day of theory instruction and dry practical, followed by an underwater practical, followed by a dry session to review the results. The duration of the underwater practical will depend on numbers and location.

The course material may also be presented in a series of shorter theory and practical sessions, spread over several days or weeks.

INSTRUCTORS

This course may be taught by any BSAC instructor. All instructors should ensure that they have knowledge of underwater photography at the level of these instructor notes, as a minimum. Assistant Diving Instructors, Theory Instructors, and Practical Instructors may require on-site supervision by an Open Water Instructor or above. Consult the BSAC website for current details of supervision requirements.

There are no absolute limits for the student to instructor ratio on this course, but organisers should note that some parts of the theory and dry practical course involve direct review of students' work. The timing for those lessons assumes 4:1.

ENTRY LEVEL

Sports Diver. Because of the task loading imposed by operating an underwater camera, and the risk of damage to sensitive marine life, it is recommended that before attempting underwater photography in open water conditions, students should be able to control their buoyancy within $\pm 1\text{m}$ or better, and that they should be totally familiar with their own diving equipment..

FACILITIES AND EQUIPMENT

Sufficient underwater compact digital cameras for the number of students. For the practical sessions, ideally there should be at least one camera for each pair of students. A lower ratio of cameras to students will lengthen the practical sessions. Students with their own underwater camera should be encouraged to bring it. Students who own a digital camera but no housing may find it useful to have it to hand during some of the theory sessions.

Enough memory for 100 images per student

Enough batteries to last the entire course

Sufficient computers for the number of students. Each machine needs photomanipulation software such as Adobe Photoshop, and memory card reader or download cable compatible with the camera being used. Ideally there should be a portable laptop per student, but sharing could be accommodated.

Extension leads for power to laptop computers.

Classroom, and swimming pool or open water with clear visibility and no current or wave action..

ADMINISTRATION	See the BSAC website for current procedures. An Underwater Photography Student Pack must be provided for each student.
QUALIFICATION	A Qualification card will be issued.
COURSE CONTENTS	The detailed course contents are set out in the Instructor Manual and Visual Aids, which can be downloaded from the BSAC website. The following is a summary.

Course Programme

Optics - issues specific to underwater photography	(30 minutes)
<ul style="list-style-type: none"> • Refraction physics • Refraction and cameras • Distortion • Loss of colour • Loss of light • Loss of contrast 	
Camera fundamentals	(30 minutes)
<ul style="list-style-type: none"> • Parts of a camera • Sensor • Resolution • Memory • File types • Exposure <ul style="list-style-type: none"> ○ Aperture ○ Shutter speed ○ Sensitivity • Compact cameras and housings 	
Housings	(45 minutes)
<ul style="list-style-type: none"> • Features • Pre-dive checks • Post-dive checks • Maintenance • Dry practical 	
Camera functions - typical functions on compact cameras	(30 minutes)
<ul style="list-style-type: none"> • Shooting modes • Exposure modes • Light meter • Exposure compensation 	

Shooting techniques	(30 minutes)
<ul style="list-style-type: none">• Camera to subject distance• Natural light• Artificial light• Balanced light• Freezing the action• Depth of field• White balance• Filters• Composition	
Photography underwater – in pool or open water	(45 minutes)
<ul style="list-style-type: none">• Safety• Diving skills• Shooting tips<ul style="list-style-type: none">○ Dive planning○ Composition○ Technical• Code of Conduct	
Practical lesson 1 – take photographs underwater, surface, and review shots	(up to 3 hours)
Practical lesson 2 – optional	(up to 3 hours)
Downloading – introduction to photo-editing software	(75 minutes)
<ul style="list-style-type: none">• Basic procedures• Levels• Contrast• Saturation• Sharpening• Image storage	
Dry practical – students download some of their shots, and review.	