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Diving Code of Conduct



2022

This Code of Conduct must be read in conjunction with Bournemouth University’s Diving Projects Management Plan.

# Acknowledgments

This document has been compiled by Tom Cousins and Dave Parham with the help of the following individuals: -

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# Contents

[Acknowledgments ii](#_Toc99463046)

[Contents ii](#_Toc99463047)

[1. Background 1](#_Toc99463048)

[1.2. Geographical Limits 2](#_Toc99463049)

[2. Definitions 2](#_Toc99463050)

[3. Diving Contractor 5](#_Toc99463051)

[4. Diving Project Plan 5](#_Toc99463052)

[4.2. Risk Assessment 6](#_Toc99463053)

[4.3. Decompression Procedures 6](#_Toc99463054)

[Use of ‘Nitrox’ 6](#_Toc99463055)

[5. Scuba Diving Teams and Associated working Practices 7](#_Toc99463056)

[5.1. Dive Teams 7](#_Toc99463057)

[5.2. Scientific and Archaeological 7](#_Toc99463058)

[5.3. Recreational Scuba Diving 8](#_Toc99463059)

[5.4. Media Scuba Diving 9](#_Toc99463060)

[5.5. Pools and Tanks 10](#_Toc99463061)

[6. Surface Supplies Diving Teams and Associated working Practices 10](#_Toc99463062)

[6.1. Surface Supplied 10](#_Toc99463063)

[6.2. Commercial Diving Inshore 10](#_Toc99463064)

[6.3. Commercial Diving Offshore 11](#_Toc99463065)

[7. First Aid Training and competencies 11](#_Toc99463066)

[7.2. Availability of Compression Chambers 12](#_Toc99463067)

[7.3. Reporting Of Incidents And Dangerous Occurrences Regulations 2013 13](#_Toc99463068)

[8. Diving Plant 13](#_Toc99463069)

[8.2. Communications and lifelines 14](#_Toc99463070)

[8.3. Diver Recall 15](#_Toc99463071)

[8.4. Maintenance of Diving Plant 15](#_Toc99463072)

[9. Diving Support Vessels 16](#_Toc99463073)

[10. Supervisors 17](#_Toc99463074)

[11. Divers and persons who dive in a diving project 18](#_Toc99463075)

[11.1. Employees of the University 18](#_Toc99463076)

[11.2. Non-Employees of the University 18](#_Toc99463077)

[11.3. Volunteer Divers 18](#_Toc99463078)

[11.4. Involvement of Students in Faculty Diving Projects 19](#_Toc99463079)

[11.5. Students involvement in non-Faculty diving project as part of their university research. 20](#_Toc99463080)

[The Faculty’s Policy 20](#_Toc99463081)

[11.6. Diving With Amateur Groups 20](#_Toc99463082)

[12. Medical Checks 21](#_Toc99463083)

[13. Bibliography and Further Reading 21](#_Toc99463084)

# Background

* + 1. The Health & Safety Executive (HSE) consider that diving at work is a high-hazard activity that can be carried out safely if properly planned and the risks managed appropriately. It is considered that in a working environment SCUBA diving generally involves higher risks than surface supplied diving, however professionally run diving at work SCUBA operations have a low accident rate. Research has shown that 1 in 5000 SCUBA dives results in a fatality, but that 97.2 % of accidents are caused by several factors that are avoidable by well-trained, intelligent, and alert divers. Elimination of these factors would reduce the fatality rate from 1 in 5000 dives to 1 in 238,000 (Health and Safety Executive, 1998).
		2. Diving at work in the United Kingdom is governed by the Diving at Work Regulations 1997 (The Regulations) that form part of the Health and Safety at Work etc. Act 1974. The Regulations impose few specific requirements; however, they do impose a responsibility on the diving contractor to ensure that diving operations are carried out safely.
		3. The modern diving industry undertakes operations in several distinct sectors. The HSE worked with each of the 5 major sectors to produce Approved Codes of Practice (ACoPs) that provide practical guides as to how to comply with the Regulations. In almost all foreseeable circumstances Bournemouth University Faculty of Science & Technology (the faculty) diving projects will be conducted in accordance with the HSE’s Approved Code of Practice for Scientific and Archaeological Diving Projects except for training when they may be conducted in accordance with the HSE’s Approved Code of Practice for Recreational Diving Projects. In some circumstances work conducted by BU may fall under the Media Projects or the Commercial Diving projects Inland/Inshore.
		4. This document sets out how the Faculty’s SCUBA and Surface Supplied (SSDE) Diving Operations will be conducted within the Regulations and in such a way to avoid those factors that are known to cause accidents. However, it should be accepted that it is impossible to eliminate all risk. Adhering to the guidelines set out in this document should ensure that diving operations are conducted safely and within the regulations, however the requirements of other legislation may also have to be fulfilled.
		5. Diving is a high-hazard specialist activity. Therefore, all members of staff who intend to undertake diving operations as part of their Bournemouth University duties, or students who intend to undertake diving operations relating to their course of study, must seek advice from the nominated ‘Diving Superintendent’ (see Bournemouth University Diving Projects Management Plan (2022)).
		6. This basis of this document is the 2006 School of Conservation Science Scientific Diving: Code of Conduct. This was altered following an audit of BU diving polices conducted by Martin Sawyer of the UK National Faculty for Scientific Diving in January 2015 and a consultation with the HSE in 2022.
		7. This document draws on the standard ACoPs and guidance published by the HSE https://www.hse.gov.uk/diving/index.htm

## Geographical Limits

* + 1. The *Diving at Work Regulations* 1997 apply to diving within UK territorial waters (generally 12 nautical miles from the low water line). Diving operations from or on offshore installations or pipelines on the UK continental shelf and diving from United Kingdom registered ships other ships working within UK territorial waters is regulated by the *Merchant Shipping (Diving Safety) Regulations* 2002. All diving activities conducted by BU will be conducted to the relevant national standards and addressed in a specific risk assessment.

# Definitions

* + 1. **‘Approved Code of Practice’ -** gives advice on meeting the requirements of the Diving at Work Regulations 1997. In particular, the Code gives advice in general terms on how to comply with those Regulations.
		2. **'At work'** - means as an employee or as a self-employed person. The phrase covers divers who dive as part of their duties as an employee and divers who are in business on their own account during the time that they devote themselves to work as a self-employed person. Diving does not have to be the main activity of the employee or the self-employed person. The Diving Regulations apply to any diving project when at least one person is at work.
		3. **‘Casualty’ -** means any casualty or other incident which involves loss or danger to the life of any person engaged in a diving project.
		4. **‘Craft’** - means a ship, hovercraft, or floating structure, including any fishing vessel or work boat, which is used for or in connection with a diving project.
		5. **‘Competence’** - is not defined in legislation but it is considered to mean having a combination of training, knowledge, and experience such that the person can do the job required in a safe and efficient manner.
		6. **‘Core team’ -** means a diving team whose make-up complies with the Regulations.
		7. **‘DCI’** - Decompression Sickness, commonly known as the *bends*
		8. **‘Dives’** - For the purposes of the Regulations a person dive if -
1. They enter
	1. water or any other liquid; or
	2. a chamber in which they subject to pressure greater than 100 millibars above atmospheric pressure; and
2. in order to survive in such an environment, they breathes in air or another gas at a pressure greater than atmospheric pressure.
	* 1. **‘Diver’** - under the Regulations a diver is defined as a person at work who dives. In this document the definition is expanded to mean any individual who dives on a school diving project or a student at the University who dives as part of their university course.
		2. **‘Diving Superintendent' -** To comply with Regulation 7 of the Management of Health and Safety at Work Regulations 1999, Bournemouth University has appointed ‘Competent Persons’ to assist in undertaking its statutory duties under Health & Safety law. In order to discharge the relevant duties, BU has nominated a ‘Diving Superintendent’ to ensure that accurate and timely advice is available on safety matters relating to diving, to monitor and maintain diving standards, identify needs for and help organize training, keep a central record of diving qualifications and activities and update the Diving Rules as required. This position is currently held by David Parham, Professor in Maritime Archaeology (9 61791)
		3. **‘Diving Services’ -** means services which are provided, for profit or gain, by the master or owner of a craft, to a person taking part in a diving project as a diver, (including the supply of submersible equipment for personal use by a diver or the supply of compressed gas (excluding therapeutic oxygen) for all forms of breathing apparatus, but excluding the provision of tuition or of transportation services); and for the purposes of this definition "tuition" includes information on local conditions and "transportation services" means the provision of a craft for the purposes of conveying its occupants to or from a diving operation or providing a platform for a diving operation.
		4. **‘Diving Contractor’** - The diving contractor has the main responsibility under the Regulations for ensuring that a safe diving project is carried out, although other people, such as clients also have responsibilities under the Diving Regulations. The diving contractor is usually the employer of the divers involved in the diving project. In accordance with regulation 7(1) of the Regulations Bournemouth University is registered to act as a Diving Contractor. The position of ‘Diving Contractor’ is held by the University; however, responsibilities for managing safety at Faculty level are delegated to each Dean.
		5. **‘Diving operation’** - means a diving operation identified in the diving project plan. The diving project plan shall identify each diving operation which makes up the diving project. The nature and size of any diving operation shall be such that it can be safely supervised by one person. A diving operation can be made up of either several dives or even a single dive. It is the portion of a diving project identified in the diving project plan which can be safely supervised by one supervisor. It will normally be evident what this portion of work is, but factors such as the task, site conditions and the diving techniques to be used, all contribute to making the decision. For example, a 28-day diving project might be made up of 40 diving operations.
		6. **‘Diving Supervisor’** - means a person appointed in writing by the diving contractor to supervise under regulation 6(2)(b). Each diving operation will be under the control of a supervisor who may give reasonable instructions to any person taking part in a diving operation.
		7. **‘Diving Project’** - means any activity, made up of one or more diving operations, in which at least one person takes part or will take part as a diver. The Project extends from the time when that person, or the first such person, commences to prepare to dive until that person, or the last such person, has left the water, chamber or other environment in which the dive, or any part of the dive, took place and has completed any requisite decompression procedures, including, where it may be reasonably anticipated that this will be needed, any therapeutic recompression. 'Diving project' is the term used for the overall diving job, whether it lasts two hours, or two months, it is made up of one or more diving operations.
		8. A number of diving projects could take place on one site at the same time. Each of these projects could be separate from the others, and each could have a separate diving contractor in charge.
		9. **‘Hazard’** - A hazard is something with the potential to cause harm. This may include water, environmental factors, plant, methods of diving and other aspects of work organisation.
		10. **‘Master’** – means the person in charge of the parent craft from which the diving project is conducted.
		11. **‘Medical examiner of divers’** – Under Regulation 15(6) this means a medical practitioner who falls within a class of medical practitioners who are approved in writing by the Health & Safety Executive for the purposes of the Regulations. Any such approval may be given generally or restricted to any class of diver or dive.
		12. **‘Mixed Dive Team’** - There is nothing in the Diving Regulations that prevents scientific and archaeological dive teams being made up of a mix of both people who are ‘at work’ and people who are not. A mixed team would consist of a core team of ‘at work’ divers with additional suitably qualified students or volunteers not essential to the project but accounted for in the diving plans and risk assessments.
		13. **‘Permit-to-work system’** - A formal written system used to control certain types of work which are identified as involving significant risk.
		14. **'Person'** - The term used to identify the diving contractor under this Regulation means person with legal identity such as an individual or a company and includes a body of people corporate or incorporate.
		15. **‘Risk’** - A risk is the possibility that someone or something will be harmed by identified hazard. The element of the risk includes the numbers of people who might be affected by the risk.
		16. **‘Risk assessment’** - A risk assessment is a careful examination of what may cause harm and an evaluation of precautions that can be taken to prevent harm.
		17. **‘SCUBA’** – Self Contained Underwater Breathing Apparatus
		18. **‘Sheltered water’** - A swimming pool or open water site with a flat bottom of sand, shingle or rock, free from any wave action and current whose depth of water will not provide a hazard for students at their level of ability and experience. Ideally it will range from standing depth to 2-3 meters within a distance of 10-15m. Underwear visibility must not be less than 3 meters
		19. **‘Supervise’** - means the exercise of direct personal control and "supervising" shall be construed accordingly
		20. **‘The Regulations’** – The Diving at Work Regulations 1997 cover all diving projects within Great Britain, its territorial waters and applies to activities outside Great Britain which are referred to in sections 1 to 59 and 80 to 82 of the Health and Safety at Work etc Act 1974 by virtue of the 1995 order as they apply with Great Britain.
		21. **‘The Faculty’** - means Bournemouth University Faculty of Science & Technology.
		22. **‘The University”** – means Bournemouth University

# Diving Contractor

* + 1. Regulation 5 of the DWR states that “*No person at work shall dive in a diving project and no employer shall employ any person in such a project unless there is one person and one person only who is the diving contractor for that project.”*
		2. Under this regulation, the University has the main responsibility under the Regulations for ensuring that competent persons have been appointed to ensure safe diving projects are carried out, although other people also have responsibilities under the Diving Regulations.
		3. The responsibilities for managing safety at faculty level are delegated to each Dean and the Faculty has appointed a ‘Competent Person’ to undertake the role of ‘Diving Supervisor’ who will ensure that accurate and timely advice is available on safety matters relating to diving, to monitor and maintain diving standards, identify needs for and help to organise training, keep a central record of diving qualifications and activities, and update the Diving Rules as required.
		4. Day to day responsibility for the co-ordination, approval, and management of diving activities across BU rests with the appointed Diving Superintendent, who reports as required to the Chief Operating Officer, who is the BU Duty Holder.

# Diving Project Plan

* + 1. Before the commencement of any diving projects a Diving Project Plan (DPP) should be prepared in accordance with Regulation 8 of the DWR and updated as necessary during the project.
		2. The plan will identify the individual(s) who will act as diving supervisors from the commencement of the project and will describe the task(s) to be undertaken and make an assessment of the risks to the health and safety of any person taking part in the diving project. The diving project plan will include this document and all information and instructions which, so far as is reasonably practicable, are necessary to protect the health and safety of those taking part in the diving project.
		3. In addition to the generic risk assessment a site and date specific risk assessment will be included and kept with the DPP together with any additional safety procedures needed.
		4. The DPP should identify the individual operations which can be safely supervised by one person. When making this decision the diving contractor should take into account the size and nature of the diving project.

## Risk Assessment

* + 1. The plan will detail how the identified risks are to be controlled and generate a site-specific risk assessment which will be completed prior to the start of any individual diving operation.
		2. As a minimum this will consider:
1. Water conditions, underwater visibility, pollution, depth, temperature.
2. Access to and from the shore/boat/platform.
3. Breathing gas mixture and the equipment needed.
4. Experience and number of personnel (including people who are not at work but part of the dive team).
5. Emergency procedures, including the location and proximity to emergency facilities, such as compression chambers and medical expertise.
6. The Method chosen for the dive, i.e. SCUBA or surface supply, stating the safety reason for the choice.
	* 1. This risk assessment will be reviewed at regular intervals during the diving project, even if the risk is low, to ensure that the risk assessment is still adequate and does not need to be revised.
		2. Copies of this document should be kept on site.
		3. This risk assessment will cover, in part, the requirement to make an assessment under the Management of Health and Safety at Work Regulations 1999. There will be no need to repeat those aspects of the assessment, so long as they remain valid, in any other assessment that is carried out. However, all significant risks not covered by the diving project assessment (including risks to members of the public arising from the diving project/diving activities) must be covered by the risk assessment carried out under the Management of Health and Safety at Work Regulations 1999 or in any assessment required to be carried out under the specific regulations.
		4. The Faculty has in place a diving safety audit system that requires that all Faculty diving project plans and risk assessments have to be approved in writing as fit for purpose by the BU Diving Superintendent before they can be implemented. In addition, all paperwork generated during the project has to be inspected upon completion, or at intervals during the life of the diving project. On some occasions the BU Diving Superintendent will make site spot checks to satisfy him/herself that the project is proceeding as planned.

## Decompression Procedures

* + 1. The decompression procedures should be appropriate for the type of diving technique undertaken and their use included in the DPP. For the majority of BU’s work this will be through the use of a decompression computer or the BSAC 88 Tables. For work that exceeds standard operations the current US Navy decompression tables should be used (Revision 7 as of 2016).

### Use of ‘Nitrox’

* + 1. The use of nitrox as the diver’s main breathing gas can significantly reduce the dangers associated with DCI. Where nitrox is to be used all diving plant will be suitable for the gas mix in use. All members of the diving team will hold a suitable nitrox qualification issued by a recreational diving agency approved by the HSE for work in connection with recreational diving instruction.
		2. The maximum operating depth (MoD) on any mixture is set at an oxygen partial pressure (PO2) of 1.4 bar absolute.

# Scuba Diving Teams and Associated working Practices

## Dive Teams

* + 1. The diving contractor should identify the minimum size of team for safe operations based on the requirements of the risk assessment on the DPP, this should consider the number of divers needed to carry out the work safely and deal with foreseeable emergencies.
		2. Depending on the diving project and operation the minimum team size will vary. Only rarely will it be acceptable to use the minimum team size, this will be established by the risk assessment and DPP.
		3. The supervisor will be familiar with the DPP and emergency procedures with any additional surface support needed as identified in the risk assessment as being part of the dive team.
		4. All members of the dive team must be deemed competent by the diving supervisor to discharge their duties and be suitably qualified to the task. This is particularly important when allocating duties for mixed team diving. In such cases the diving contractor should ensure that everyone is competent to undertake their tasks safely and without risk to themselves and other members of the team.
		5. Under regulation 12(1)(a), no diver shall dive in a diving project unless they have an approved qualification which is valid for any activity they may reasonably expect to carry out while taking part in the diving project. An exception to this is where the dive is part of training which, if successfully completed, would lead to the issue of an approved qualification (regulation 12(2)(a)).
		6. The supervisor should decide upon a common system of signals to be used between the dive team and others involved in the diving operation and ensure that everyone is familiar with this system. This should be done before the start of the diving operation for which they are responsible and recorded in the diving project plan.
		7. SCUBA should only ever be used where there is no risk of entrapment (for example, relating to lines, lifting rigging or hoses/tools etc)

## Scientific and Archaeological

* + 1. Scientific and Archaeological diving is defined as diving in support of:
1. archaeology including:
2. investigation of sites of historic interest;
3. investigation of the analysis of physical remains;
4. the recovery from such sites of articles for preservation and further analysis;
5. Education instruction.
6. scientific research or scientific educational instruction.
	* 1. It does not include any diving where closed bell or saturation diving techniques are used or from vessels maintaining station by the use of dynamic positioning. In both these cases the regulations laid out in the Commercial Diving Projects Offshore ACoP will be applied which are nominally beyond the scope of work conducted by the University.
		2. Some diving operations conducted as part of a scientific or archaeological project may be beyond the scope of this ACoP these will be addressed in the DPP and risk assessments and will follow the appropriate guidelines.
		3. Divers at work should be qualified to HSE SCUBA or equivalent as described in "List of Approved Diving Qualifications dated 1 December 2021”. Alternatively they should be trained to least recreational qualifications which meet EN 14153-3/ISO 24801-336. I.e. CMAS 3\* or BSAC Dive Leader or European Scientific Diver as assessed by the SDSC.
		4. The minimum dive team for SCUBA operations under the Science and Archaeology ACOP in benign conditions[[1]](#footnote-1) is three, consisting of a supervisor and a ‘buddy pair’ of divers. However as stated above this would rarely be acceptable. For Bournemouth University projects the minimum working team size will be four.
		5. There is nothing in the Diving Regulations that prevents scientific and archaeological dive teams being made up of a mix of both people who are at work and people who are not. I.e. the core dive team “at work” and students “not at work”. However, such an arrangement may introduce additional risks to be addressed in the diving project plan. All people who dive must be competent to do so. If anyone in the team who is not at work is allocated duties under the Diving Regulations, they must be competent to perform them. This is further detailed in section 11.3 Volunteer Divers.

## Recreational Scuba Diving

* + 1. Recreational diving is defined as diving in support of:
		2. the instruction and/or guidance of persons diving for recreational diving, that is diving carried out by a person for recreational purposes whilst not at work
		3. recreational journalism undertaken for commissions and producing articles, including stills photography, for the recreational diving press only;
		4. For the University this includes the instruction of students in SCUBA diving following the BSAC syllabus.
		5. The minimum team size for recreational diving is three, one surface cover and a ‘buddy pair’ of diver in the water however this would be subject to an approved risk assessment. One of the three divers would be nominated at the ‘supervisor’ and would usually be the most competent member of the team. It is acceptable under the recreational ACoP for this diver to be leading the dive underwater.
		6. The instructor to student ratio shall not exceed the recommended ratio as stated in the training organisations guidelines for example in BSAC Ocean diver this is 1:4 in sheltered water and 1:2 in open water.
		7. The decision on instructor-to-student ratios should be linked back to the findings of the risk assessment and should not exceed the recommended levels of the appropriate recreational diving organisation. Where qualified people are being guided or are under instruction, the appropriate instructor to student ratio depends upon the site conditions and the nature of any exercise being undertaken.
		8. The person on the surface does not have to be someone able to dive but they should be familiar with the diving project plan and the arrangements for obtaining assistance in the event of an emergency. Dive teams and associated working practice All the people who form part of the dive team must be competent to discharge the duties they hold.
		9. At the beginning of each season a training / refresher event will be held that familiarizes all those involved with diving operations about the following:
* Operation of BU emergency oxygen administration equipment
* Use of delayed surface marker buoys
* Communications between each diver and the surface
* Diver recall systems

## Media Scuba Diving

* + 1. Media Diving is defined as diving in support of underwater work by media divers. Media Divers include
* Stunt People
* Journalists
* Presenters
* Photographers
* Camera operators and sound and lighting technicians
* the unit crew required to dive in support of underwater media work.
	+ 1. The term does not include divers used in the preparation of underwater locations that require engineering and construction skills or the handling or use of explosives. This would be covered by HSE’s Inland/inshore ACOP (L104).
		2. Photography for the recreational diving press is covered under the recreational ACOP.
		3. Divers at work on media projects should be qualified to HSE SCUBA or equivalent as described in "List of Approved Diving Qualifications dated 1 December 2021”.
		4. If the dive team is to include performing artists without an approved diving qualification, the DPP should set out the measures required, including what extra personnel may be needed, to ensure the safety of the divers and the performers.
		5. Standby divers for media divers should be competent and qualified to the same level as the media diver in the diving techniques being used in the diving project.
		6. Divers who are being filmed while carrying out their normal tasks, e.g. filming archaeological excavations will be treated as a separate operation and run in parallel under the appropriate ACoP and addressed in the DPP and risk assessment. The exception to this would be if archaeological work was suspended for a specific media event with the archaeologists acting as presenters.
		7. Divers at work should be qualified to HSE SCUBA or equivalent as described in "List of Approved Diving Qualifications dated 1 December 2021”. Alternatively they should be trained to least recreational qualifications which meet EN 14153-3/ISO 24801-336. I.e. CMAS 3\* or BSAC Dive Leader.

## Pools and Tanks

* + 1. When diving in clear water and in full view of the surface such as tanks and pools using SCUBA, where there is no risk of entanglement or entrapment the dive team may be reduced to a minimum of three which includes two qualified divers (one of which would act as the supervisor) and a surface support person.
		2. The risk assessment and DPP should assess the diving practice and adjust the team size accordingly
		3. Whilst diving in closed artificial environments in circumstances other than those defined as benign the usual rules will apply.

# Surface Supplies Diving Teams and Associated working Practices

## Surface Supplied

* + 1. Where there is a risk of entrapment in a diving project surface supplied equipment should be used.
		2. The Science and Archaeology ACoP allows for a minimum Surface Supplied dive team of four consisting of a supervisor, diver, standby and tender although as with all diving operations this will rarely be acceptable.
		3. Many of the tools used in archaeological investigations are typical of the commercial diving industries, the DPP will address which ACoP the diving operation is most suited to follow.

## Commercial Diving Inshore

* + 1. The class of Inland/Inshore Diving is defined as diving in support of civil engineering or marine-related projects within UK territorial waters in depths shallower than 50m and not using offshore techniques such as closed bells and dynamic positioning systems. Work outside of these parameters should be treated as an offshore project.
		2. Work conducted by the university under this ACoP may include activities such as lifting and the use of some surface powered tools deemed by the DPP and the Risk Assessment as being beyond the scope of the Science and Archaeology ACoP.
		3. This would also include dives involving engineering or construction skills in the setting up and preparations of sites.
		4. The diving contractor must specify the size of the dive team based on the details of the DPP and the risk assessment considering the number of hours to be worked each day, the type of diving, the plant, techniques and decompression requirements. The minimum size of dive team for a surface supplied operation under this ACoP is five with a supervisor, working diver, standby diver, and tenders for each diver. Additional people will be needed to operate any specialised plant and to assist in an emergency.
		5. The diving contractor and the supervisor must satisfy themselves that a diver has the competences for the specific tasks required during a particular diving operation. On-the-job or other training may be necessary for individuals to gain competence. When an inexperienced diver is gaining experience in a dive team the other team members and the supervisor will need to be aware of this and provide support.
		6. The minimum qualification for working under this ACoP is HSE Surface Supplied Diving or equivalent as listed in the HSE’s "List of Approved Diving Qualifications dated 1 December 2021”. The tenders do not need to be qualified divers they do however need to be familiar with the diving procedures and be deemed competent by the University.

## Commercial Diving Offshore

* + 1. On extremely rare occasions diving projects run by the University may come under offshore regulations these include dives deeper than 50m (not covered by the Media, Recreational or Scientific and Archaeological ACoPs) and those using offshore diving practices such as enclosed bells, saturation diving or vessels with DPS. These operations are beyond this Coded of Conduct and will require addressing in a risk assessment and DPP.

# First Aid Training and competencies

* + 1. The risk assessment will identify the first-aid equipment required on site and the number of qualified personnel needed to use it, considering the diving operations as laid out in the DPP which will record who in the diving team has responsibility for first aid and what type of first-aid equipment is available for the diving project.
		2. Oxygen and suitable first-aid equipment, as set down in the Health and Safety (First-Aid) Regulations 1981 Approved Code of Practice, will be immediately available at all locations diving is to take place. In additions to the Faculty’s standard first-aid kits 4 aluminium foil blankets and a windproof body bag will also be carried. Sufficient oxygen will be provided for the duration of transfer of a diver to a recompression chamber, hospital, or other place. It should be administered using a tight-fitting mask or by a mouthpiece with a nose clip.
		3. At least two persons in each dive team will be qualified in first aid to the standard as set down in the Health and Safety (First-Aid) Regulations 1981 Approved Code of Practice with additional training in resuscitation the provision of oxygen first-aid. The supervisor should be responsible for arranging their duties so that one of the team should be able to administer first-aid and/or oxygen should it be needed, to a member of the dive team in an emergency.
		4. Oxygen equipment should be tested frequently (at least every six months but certainly prior to the main diving season) to maintain experience plus to ensure that the equipment is working properly.
		5. The nominated first aider should not have dual responsibly such as the supervisor or master of the vessel.
		6. The Health and Safety (First-Aid) Regulations 1981: Guidance on Regulations (L74)8 sets out additional advice for those areas where special additional training may be necessary to cover less common risks.

## Availability of Compression Chambers

* + 1. The diving contractor has a responsibility to ensure the provision of facilities so that a diver can be recompressed in an emergency, should this be necessary. Treatment of DCI in a compression chamber should commence as soon as possible (subject to medical advice). The provision of a compression chamber should be in accordance with the decompression procedures selected as part of the diving project plan. In addition, the following minimum standards should be applied:
1. for dives that are shallower than 10 metres with planned in-water decompression not exceeding 20 minutes, the diving contractor should identify the nearest suitable operational two-person, two- compartment chamber. Under no circumstances should this be more than 6 hours travelling distance from the dive site.
2. for dives between 10 and 50 metres with planned in-water decompression not exceeding 20 minutes, the diving contractor should assess the risk of DCI and likelihood of a diver requiring emergency recompression. This should be based on the depth and duration of the planned dives. The assessment should also consider factors which may increase the risk of DCI such as water temperature, type of work and the number of dives/ascents. If the assessment demonstrates a significant risk of DCI a suitable, operational, two-person, two-compartment chamber should be provided for immediate use at the site of the diving project. If the assessment demonstrates relatively low risk of DCI, the diving contractor should identify the nearest suitable, operational, two-person, two-compartment chamber. Under no circumstances should this be more than 6 hours travelling distance from the dive site.
3. for dives with planned in-water decompression stops greater than 20 minutes or any dives deeper than 50 metres the diving contractor should provide a suitable, operational, two-person, two- compartment chamber for immediate use at the site of the diving project. The diver should be able to leave the water quickly and easily and be pressurised within the chamber to the appropriate recompression pressure as defined by the time in the decompression schedule being used. The controls of a compression chamber should only be operated by people competent to do so. Such competence will be achieved by a combination of training and experience. The degree of supervision provided should reflect the experience of the operator.
	* 1. The diving project plan should demonstrate that in an emergency, where the compression chamber is not located on the site, a diver will be able to be transported and recompressed to ensure, so far as reasonably practicable, their safety. If the diving project plan relies on the support of any emergency services, then that plan should be subject to continued assessment and consider any factors which may affect such support (for example changing weather conditions).
		2. If a situation arises where a diver may need hyperbaric treatment at a chamber provided by another chamber owner, then provision for this should be made in the diving project plan.
		3. If the diving contractor is responsible for transporting the injured diver to a hospital or other place, their duty will continue until the diver is admitted to the hospital or other place.

## Reporting Of Incidents And Dangerous Occurrences Regulations 2013

* + 1. Under the Reporting of Incidents and Dangerous Occurrences Regulations 2013 (RIDDOR) the following diving relating incidents need to be reported:
1. The failure, damaging or endangering of the following diving equipment if it causes a significant risk of personal injury to a diver (DO 13)
2. any life support equipment, including control panels, hoses and breathing apparatus; or
3. the dive platform, or any failure of the dive platform to remain on station
	* 1. You must also report the following diving accidents in any situation:
4. The failure or endangering of any lifting equipment associated with a diving operation (DO14)
5. The trapping of a diver (DO15)
6. Any explosion in the vicinity of a diver (DO16)
7. Any uncontrolled ascent or any omitted decompression which causes a significant risk of personal injury to a diver (DO17)
	* 1. A record must be kept of any reportable injury, disease, or dangerous occurrence. This must include the date and method of reporting; the date, time and place of the event, personal details of those involved and a brief description of the nature of the event or disease. The record may be kept in any form you wish.
		2. Any incident which requires the assistance of the Coastguard or other emergency services must be reported to the University Serious Incident Officer via 01202 962222.
		3. The SIO will invoke the BU Emergency Management procedures as appropriate to the scale and impact of the incident, including notification to the Major Incident Group Leader.

# Diving Plant

* + 1. The University is responsible for ensuring that suitable and sufficient plant is available whenever needed to carry out safely and without risk to health both the diving project and any action (including the giving of first-aid) which may be necessary in the event of a reasonably foreseeable emergency connected with the diving project.
		2. The types and amount of equipment needed for will depend on the circumstances of the diving operation and be addressed in the DPP.
		3. As a minimum the SCUBA diver will be equipped with:
1. Suitable thermal protection, (for example, a dry suit)
2. A primary source of breathing gas which conforms with BS EN 12021:2014
3. An independent secondary source of breathing gas (for example, a pony cylinder). This must be capable of supplying sufficient breathing gas during a controlled 'assisted' ascent. The size of this reserve should be adequate for the depth, work rate and any hazards likely to be encountered and should not be compromised if the primary supply fails. All emergency breathing gas calculations will be calculated at 50 litres per minute
	1. In addition to this divers using full face masks will have a bailout solution tested in accordance with EN250.
	2. When undergoing initial training under the recreational ACoP the training organisations advice will be followed. This may mean that the independent breathing source is replaced by a secondary second stage known as an ‘octopus’.
4. A means of proving positive buoyancy, that is operable in the event that the diver's main gas supply becomes unavailable, which will float him or her on the surface while awaiting recovery (for example a buoyancy compensator/lifejacket supplied by the diver's independent secondary source of breathing gas or a separate emergency cylinder)
5. A sharp knife, or other suitable cutting tool
6. A means of recording depth, time, and cylinder pressure.
	* 1. As a minimum a surface supplied dive team will have:
7. Suitable thermal protection, (for example, a dry suit)
8. A diving panel which conforms to the ADC Information Note 05/95 - Minimum Criteria to be met by a Surface Supply Inland/Inshore Air Diving Panel for Diving Operations in the UK[[2]](#footnote-2). This includes:
	1. A primary source of breathing gas which conforms with BS EN 12021:2014. This would usually be supplied from the diving panel to the diver via an umbilical.
	2. An independent breathing supply for the standby diver (i.e. supplied form different sources) each of these must have a non-return valve fitted to ensure gas from one supply does not exhaust from the other in the event of failure.
	3. A secondary supply separates from the main air supply this may be common across both divers.
	4. A means of establishing the divers depths (i.e. a Pneumofathometer as part of the umbilical system)
9. the diver wears a full-face mask which should be fitted with either an oral nasal or a mouthpiece.
10. An umbilical or lifeline to the surface
11. An independent secondary source of breathing gas (for example, a bailout cylinder) with a manifold tested to EN15333.
12. A sharp knife, or other suitable cutting tool
13. A means of recording cylinder pressure on the bail out.
14. Appropriate two-way communication between the diver and the supervisor

## Communications and lifelines

* + 1. When diving at work under the Scientific, Media or Commercial ACoPs means of two-way communication between the supervisor and the divers should be provided.
		2. Two-way voice communications should be available for all dives. However if this is not practicable, then other means of two-way communication (e.g. lifeline signals) may be used. This decision should be based on the findings of the risk assessment. Where reliance is placed on a fixed surface marker buoy then there should be a boat or other method to maintain communication with the diver.
		3. Voice communications are not normally available on recreational dives in these situations each dive will have and be trained in the use of an SMB. If voice equipment is used the equipment should enable each diver to communicate with the supervisor, and when working as a buddy pair, for each diver to communicate with each other.

## Diver Recall

* + 1. Where voice communications are not used, or have ceased to function, the standard diver recall signal will be 4 pulls on the diver’s lifeline or SMB.
		2. Other alternatives include striking a hammer on the dive ladder repeatedly spelling out SOS (· · · – – – · · ·), or if no other method available, go near to divers’ position and rev RIB engines repeatedly in neutral. The recall system will be explained to the divers before the diving operations occur and included in the DPP.
		3. As a last and final resort thunderflash will be used. The thunderflash will be weighted and secured to a 4 m line so that it sinks but does not reach the bottom if deployed. All divers will experience a thunderflash as part of a training drill.

## Maintenance of Diving Plant

* + 1. All diving equipment will be maintained in accordance with BU’s written scheme of equipment maintenance and inspection. The equipment maintenance scheme is based on the manufacturers’ recommendations for each piece of equipment and be in accordance with the appropriate national or international standards. In addition to this an inspection and function check of equipment to be used by a competent person i.e. an ASSET Dive Industry Technician will occur before any diving projects take place.
		2. Any diver wishing to use their own equipment will have to provide evidence that it has been maintained to the standards set out in the scheme and be subject to an inspection by a competent member of the University dive team.
		3. Before each dive operation a pre-dive visual inspection checklist will occur to ensure that it is in a serviceable condition and working correctly depending on the equipment being used as identified in the DPP.
		4. Where breathing and similar equipment is likely to be shared, appropriate disinfection procedures should be used.
		5. Breathing gas cylinders should be manufactured to BS5045 (Part 7 for “lightweight” seamless steel cylinders, Part 8 for “lightweight” seamless aluminium cylinders) SCUBA cylinders to be used in Europe must comply with the Pressure Equipment Directive and will bear the CE or UKCA conformity mark.
		6. Seamless steel and aluminium cylinders should be tested to EN ISO 18119 with a periodic inspection and tests (PIAT) carried out every 5 years, this would nominally be a hydraulic pressure test. Periodic inspections (PI) should take place annually unless a risk assessment has been carried out in which case the period should be no more than 2.5 years.
		7. The UK Diving Industry Committee has issued a risk assessment which recommends the PI for cylinders used in the scientific and archaeological industry to be 2.5 years, as sponsored by the SDSC. However, cylinders used for specific operations that are at an increased risk of water ingress, such as bailouts, are internally examined every 6 months. (UK Diving Industry Committee, 2018, p. 14)
		8. Cylinders either individually or supplied in bundles and used only on the surface to provide gas to a diver via an umbilical have been inspected and tested every 10 years.

# Diving Support Vessels

* + 1. If the primary diving platform is a craft this must be ‘coded’ under the Maritime and Coastguard Agency *MCA Code of Practice for the Safety of Small Workboats and Pilot Boats*. The master of the vessel should be suitable experienced in working with SCUBA divers and it must be suitably equipped, maintained, seaworthy and have adequate navigation, communication, and emergency equipment. It should be suitable for the operation of divers, have safe place on board from which the diving project may be undertaken and have adequate facilities for the safe removal of an incapacitated diver from the water and onto the operational deck of the vessel.
		2. Whilst diving operations are underway the diving platform should display an International Code Flag 'A' (meaning I have a diver down; keep well clear and proceed at slow speed) not less than 1 meter in height with measures taken to ensure its all-round visibility. Where operations are to be conducted at night three all-round lights in a vertical line shall be shown where they can be best seen. The highest and lowest of these shall be red and the middle light shall be white.
		3. It is the duty of the master of a craft from which a diving project is undertaken to, so far as reasonably practicable, undertake no activities that might adversely affect the health and safety of any person engaged in the diving project, to position the craft in a safe location for the duration of the diving project and to ensure that all plant and equipment, other than diving plant and equipment, necessary for the safe conduct of the diving project are sufficient and available for that purpose.
		4. A diving supervisor may, while supervising a diving operation in respect of which he is appointed, give such reasonable directions to any person to ensure the safety of the divers taking part in the diving operation. The master of a craft from which a diving operation takes place may give the diving supervisor and any person taking part in the diving operation such reasonable directions as are necessary in order to ensure the safety of the craft.
		5. The master must identify and discuss risks with the diving superintendent during the preparation of the diving project plan and establish an agreed means of communication with the diving supervisor and advise on matters considered relevant during the diving operation.

# Supervisors

* + 1. The University appoints diving supervisors in writing for a period of 12 months as per the Bournemouth University Diving Management Plan (2022).
		2. Each diving operation will be under the control of a Diving Supervisor who may give reasonable instructions to any person taking part in a diving operation. Diving Supervisors will have the full support of the appointed Diving Superintendent to ensure they carry out their roles confidently and competently.
		3. The supervisor has legal responsibility for the safety of the diving operation they are supervising and should be on site, in direct control of the diving operation taking place. Before any operations take place the supervisor will inform the relevant authorities that diving operations are in progress and permits and permissions have been obtained. As well as ensuring all members of the team understand the DPP.
		4. The supervisor is also responsible for ensuring all the personnel involved with the diving operations ad qualified, competent, and capable of doing their task safely and are ware of any potential risks involved.
		5. The supervisor will also fill out a daily risk assessment and log the diving operations.
		6. A Deputy Supervisor will usually be appointed in the DPP their role will NOT be in addition to the Supervisor but will be able to take over the supervisors’ duties if the supervisor is incapacitated or has to leave site. The hand over process will be logged effectively starting a new diving operation under the new supervisor.
		7. The supervisor’s responsibilities to the divers in a diving operation will continue until all necessary decompression has finished, unless the treatment takes place in a hospital or other place, or until the responsibility has been handed over to another appointed supervisor.
		8. If a diving project is complex or takes place over such an area or timescale that its operation cannot be safely supervised by one supervisor, then the project should be divided up and further supervisors should be appointed for separate operations. Enough supervisors must be appointed to cover the entire diving project. It will be agreed beforehand that one supervisor should have overall control of the project.
		9. In the case of multiple operations occurring at the same time for example a media diving operation filming an archaeological investigation it will be agreed beforehand that one supervisor should have overall control of the project in an emergency.
		10. The supervisor shall not normally dive as part of the operation, the exception to this will be when diving under the recreational ACoP where the supervisor is usually the lead instructor in the water.

# Divers and persons who dive in a diving project

## Employees of the University

* + 1. All employees of the University will be considered ‘at work’ they must hold a suitable HSE approved qualification and have an in date medical.
		2. It is the diver’s responsibility to maintain a daily record of their diving which are accurate and reflect the information contained in the diving operation records. Digital versions of these logs can be provided on request.

## Non-Employees of the University

* + 1. Personnel who are not employed by the diving contractor but who are considered for inclusion in the dive team must be competent for the work that they are going to do. They should be medically fit to be part of the dive team, familiar with the diving contractor's procedures, rules and the diving plant that is to be used. They should be listed in the DPP and accounted for in the risk assessment.
		2. As with all divers it is their responsibility under the Regulations to maintain accurate daily records of their diving.

## Volunteer Divers

* + 1. HSE's interpretation and subsequent advice to industry has to date focused on whether an individual person taking part in a diving project is 'at work' or 'not at work' (HSE, 2020).
		2. Broadly, the advice has been that a person who is receiving any kind of payment for their diving services falls into the category of being 'at work'. The term 'favour or reward' has also been used to emphasise that a person does not have to receive monetary payment to be considered 'at work' and that other benefits, such as the provision of free air or the use of diving equipment, need to be considered.
		3. This approach has led to difficulties in establishing the status of unpaid volunteers who are effectively essential members of staff and whose involvement is required to enable a diving at work project to go ahead in compliance with DWR97.
		4. In general terms, any person taking part in a diving project who is either being paid (or in receipt of favour or reward) or whose involvement in a diving project is required for that project to be carried out in accordance with DWR97 should be considered to be at work (and therefore a 'diver' under DWR97 regulation 2). If this was a 'volunteer', the diver would need to be sufficiently competent and have a valid certificate of medical fitness to dive (issued by an approved medical examiner of divers).
		5. For University projects they would also require a volunteer contract to be part of the at work team.
		6. In situations where an unpaid volunteer taking part in a diving project would not be considered to be at work, such as a visit to an archaeological site by a recreational group or divers “tagging along” on projects. In these cases, they should not be exposed or be in a position to expose others to any risk to their health and safety.
		7. Divers who are neither at work nor under instruction but have "tagged on" to such a group would still be part of the diving project.  They would be considered to be "persons engaged in a diving project". They would be effectively guided by the supervisor who would have responsibility for their safety.
		8. Any volunteers on university projects will be considered part of the overall dive team in the DPP and risk assessments but they may not require a HSE medical or approved qualifications
		9. In general, the same health and safety standards should be applied to volunteers taking part in a diving project as they would to employees exposed to the same risks.  If the risk assessment shows that the risks to the volunteers are different, the preventative and protective measures should reflect the different risks.
		10. As with all divers it is their responsibility under the Regulations to maintain accurate daily records of their diving.

## Involvement of Students in Faculty Diving Projects

* + 1. The information below does not apply to diving activities that are part of a formal diver training and assessment scheme.
		2. A student who holds a diving qualification listed on List of Approved Diving Qualifications dated 1 December 2021 for the relevant diving operation and who is considered competent by the Faculty’s diving advisor to discharge the duties required of them may, subject to compliance with the Standard Operating Procedures listed above and the Diving at Work Regulations, dive as part of a Faculty core diving team.
		3. In addition to the core diving team students of the faculty, or other institutions may be involved in diving operations subject to the following limitations:
1. The project plans and risk assessment must specifically address the issue of the involvement of students diving in addition to the core diving team;
2. Each Student must have the written approval of their Program Leader and the faculty’s Diving Advisor;
3. Each Student must have diving skills and experience that make them competent for the work proposed;
4. Each Student must hold as a minimum a CMAS 2\* or equivalent diving qualification from a recreational agency/organization whose qualifications are approved by HSE for the class of Recreational Diving;
	* 1. Each student will hold a valid Sports Diving Medical from a UKDMC Medical Referee they will not be expected to carry tasks that are more arduous than those commonly undertaken in sports diving. Full HSE medicals would be required if the students involvement is required for that project to go ahead.
		2. As with all divers it is their responsibility under the Regulations to maintain accurate daily records of their diving.

## Students involvement in non-Faculty diving project as part of their university research.

* + 1. The Regulations apply where there is at least one person who takes part as a “diver”. As university students are not employees of the university and a student is not likely to be at work, the Regulations will not apply to this activity unless it is conducted as part of a university organised activity where there are persons at work.
		2. However, the Health & Safety at Work etc. Act 1974, Section 3 - General duties of employers and self-employed to persons other than their employees - will apply. Health and safety laws aim to protect both employees and non-employees (such as students and visitors) from risks to their health and safety arising from work activities. Universities have a duty under Section 3 to conduct their undertaking in such a way as to ensure, so far as is reasonably practicable, that persons not in their employment who may be affected thereby are not thereby exposed to risks to their health or safety. This duty extends to students undertaking or preparing coursework for universities and colleges (e.g. in laboratories or workshops). Should a student elect or wish to research coursework by diving, the university would have a duty to do all that which is reasonably practicable to ensure that the students are not exposed to significant risks to their health or safety while diving.

### The Faculty’s Policy

* + 1. A student wishing to undertake research or coursework by diving in a non-Faculty organized diving project will only be allowed to if permission is obtained in writing by the student’s Program Leader and the faculties Diving Advisor. Permission will only be given if the Faculty is happy that both the diving and course work can be undertaken in a safe manner. Therefore, a comprehensive project plan and risk assessment will have to be provided by the student as detailed above.
		2. As a minimum the Faculty will expect to see that the diving is conducted under the auspices of a diving agency or organization whose qualifications are approved by HSE for the class of Recreational Diving and that diving is to be undertaken in accordance with the ACOP for Scientific and Archaeological Diving Projects.
		3. Regardless of the above the Faculty reserves the right to refuse permission without reason.
		4. Note that is its foreseeable that students could take up employment or undertake diving as a self-employed person as an outside activity not under the control of the Faculty, e.g. as a recreational instructor or assisting with such activities. The Diving at Work Regulations will apply under these circumstances. If they collect samples or information at the same time, then their safety will rest with the “diving superintendent/diving contractor”

## Diving With Amateur Groups

* + 1. Members of university staff may be asked to dive with amateur groups such as groups licensed to work on Protected Wreck sites. In these circumstances the following will apply: -

(a) Part of the amateur group will comprise of the divers support team, with a minimum of Diving Supervisor and diver’s buddy who are qualified to those standards set out in the HSE List of Approved Diving Qualifications dated 1 December 2021.

(b) Whilst a member of the amateur group will perform the role of the diving supervisor the appointed supervisor, and the attached responsibility, will be the staff member.

(c) The project plan and risk assessment shall take into account the fact that the supervisor will dive as part of the diving operation.

(d) Where it is not considered safe for this to occur a second suitably qualified member of staff will accompany the diver to act as supervisor.

(e) Where amateur groups are directed to carry out diving related tasks it must be shown that the divers involved are competent (through training and/or experience) to undertake the work required.

# Medical Checks

* + 1. All divers who are at work require a valid certificate of medical fitness to dive issued by a HSE medical examiner of divers, generally known as an Approved Medical Examiner of Divers (AMED). The certificate of medical fitness to dive is a statement of the diver’s fitness to perform work underwater and is valid for as long as the doctor certifies, up to a maximum of 12 months.
		2. If the dive team includes people who are not at work, they should have evidence that they are fit to dive. This includes a valid Sports Diving Medical from a UKDMC Medical Referee within the past five years and an annual UKDMC Recreational Diver Medical Declaration Form.
		3. Divers whose medical fitness may be in doubt for any reason, for example fatigue, minor injury, recent medical treatment or who are taking any medication, must inform their supervisor. Even a minor illness, such as the common cold or a dental problem, can have serious effects on a diver under pressure, and should be reported to the supervisor before the start of a dive.
		4. Medications routinely taken may have significant side effects in hyperbaric environments. Supervisors should seek guidance from the diving contractor or the company’s medical adviser if there is doubt about that person’s fitness to dive.

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1. Benign conditions are described by the HSE as clear water, negligible tide or current, no trapping hazard, easy entry and exit from the water, and where the task to be performed is not arduous. [↑](#footnote-ref-1)
2. http://adc-uk.info/?page\_id=1129 [↑](#footnote-ref-2)