Bournemouth University

# Faculty of Science and Technology

## Department of Creative Technology

# Individual Project Handbook (Assignment Brief)

## - A guide for students & supervisors -

**BSc Games Design (BSc GD)**
**BSc Games Software Engineering (BSc GSE)**
**BA Digital Creative Industries (BA DCI)**

**Level 6**

Version: January *2022 - June 2022*

**Unit Leader:** Dr Vedad Hulusic **Email:** vhulusic@bournemouth.ac.uk

# Unit structure and key dates

| | 10/01/2022 | 17/01/2022 | 24/01/2022 | 31/01/2022 | 07/02/2022 | 14/02/2022 | 21/02/2022 | 28/02/2022 | 07/03/2022 | 14/03/2022 | 21/03/2022 | 28/03/2022 | **Spring break** | 25/04/2022 | 02/05/2022 | 09/05/2022 | 16/05/2022 | 23/05/2022 | 30/05/2022 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **BU(Teaching) Wk>** | 28 | 29 | 30 | 31 (1) | 32 (2) | 33 (3) | 34 (4) | 35 (5) | 36 (6) | 37 (7) | 38 (8) | 39 (9) | 40-42 | 43 (10) | 44 (11) | 45 (12) | 46 (13) | 47 | 48 |
| **Semester>** | S1 | S1 | S1 | S2 | S2 | S2 | S2 | S2 | S2 | S2 | S2 | S2 | S2 | S2 | S2 | S2 | S2 | S2 | S2 |
| **Deadlines** | | A1: Pre-proposal (Monday, 17/01/22) | | | A2: Proposal (Friday, 11/02/22) | | | Ethics / Risk assessment (Monday, 28/02/22) | | | A3: Progress Presentation (Monday, 21/03/22) | | | | | | A4: Dissertation + Product or Portfolio (Friday, 20/05/22) | A5: Project demo/viva (Friday, 27/05/22) | |
| **Lectures** | L0: Intro, pre-proposal and proposal | | | L1: FYP examples-demos<br><br>L2: Literature survey and review (Charlie) | | L3: Ethics | | L4: Academic Writing (Phil Stocks) | | L5: Progress Presentation | | L6: Evaluation | | L7: Critical reflection | | L8: Viva Preparation | | | |
| **First supervisor individual meetings** | | | | Meeting | | Meeting | | Meeting | Meeting | | Meeting/ presentation | | | | Meeting | | Meeting | Presentation | |
| **Second supervisor meetings** | | | | | Meeting 1 | | | | | Meeting 2 | | | | Meeting 3 | | | | | |
| **Group meetings** | | | | Meeting 1 | | | Meeting 2 | | | Meeting 3 | | Meeting 4 | | Meeting 5 | | Meeting 6 | | | |
| **Milestones** | | | | | Literature review done and proposal ready for submission | | Design draft+ Dissertation structure draft | | | min 30% product done + Section 2 (Intro, background, related work) done | | min 60% product done + Section 2 and Section 3 draft (no study) done | | Product done + Draft dissertation (no results) | | Evaluation and analysis done + results written | A4 submitted and presentation done (if needed) | | |

# Introduction

Welcome to the final year of your BSc degree course. During this year you are required to ***complete a major individual project worth 35% of your overall degree mark.***

To achieve this, you will need to demonstrate the ***equivalent of 600 hours***, thus ***working full time on the project from February 2022 to May 2022.***

This document provides key information to guide you through the project process.

# Summary of key project deadlines

| **Requirement** | **Submission Deadline** | **Method** | **Return Mark and/or Feedback date** |
|---|---|---|---|
| A1: Pre-proposal | 12:30 Mon 17th Jan 22 | Online via Turnitin. | Feedback to be provided in the following meeting(s) |
| A2: Full Proposal | 12:30 Fri 11th Feb 22 | Online via Turnitin. | |
| Ethics and Risk | 12:30 Mon 28th Feb 22 | Online ethics system. | |
| A3: Progress Presentation | 12:30 21st Mar 22 (presentation slides)<br><br>Presentations will take place during the W/C 21st Mar 22 | Slide Presentation.<br>+ Copy Online via large file submission. | |
| A4: Dissertation + Product or Portfolio | 12:30 Fri 20th May 22 | Dissertation:<br>Online via Turnitin.<br>Product / Portfolio:<br>Online Large File Submission. Note if work exceeds the LFS 3GB limit, please break it into multiple archives. | |
| A5: Project demo/viva | 12:30 Fri 27th May 22 (presentation slides)<br><br>Viva presentations will take place between Mon 23rd May 22 and Fri 3rd Jun 22 | 30-minute lab-based presentation & defense of project to both supervisors. You will need to be available during this period. | Mon 20th Jun 22 |

# Important information

This aim of this document is to provide an initial overview of the Individual Project process and to serve as an assignment brief. Project students are advised to regularly check the Individual Project unit on Brightspace, as updates and support material will be provided throughout the year.

***Students will be required to undertake the phased submission of related elements of the project at defined milestones which will only be formally assessed, and definitive marks issued, at the end of the project (marks release deadline: 20th June 2022).***

Please discuss specific details with your project supervisor or with the unit leader (Vedad Hulusic).

# Types of project supported by the Creative Technology Department

The department supports two types of project which are available to all Games students:

**Standard project**

A standard project results in a hardware and/or software product based on the current trends in the research and/or professional community. A standard project will require a product specification which is then designed and implemented using appropriate methodology and tools. The product will then be evaluated and characterised using appropriate testing strategies. The results of testing are analysed, and conclusions drawn regarding the performance of the product or system. A standard project is written up as a technical dissertation.

**Portfolio project**

A portfolio project should be based on the current trends in the research and/or professional community and result in the generation of a creative or technical portfolio together with a dissertation that explains the context of the work and details the creative process behind its realisation. Exemplars for portfolio projects within the context of each degree route are described later in this document.

*The **main differences** between the two types of projects are:*

- *A standard project is more scientific, research-based, with a research question, a methodology which often includes the development of an enabling platform/technology, data collection and analysis and, finally, the discussion of the analysis in relation to the original research question;*
- *A portfolio project is predominantly content-creation based, whilst (still) paying attention to enquiry on best industry and other practices (there still need to be the aims, objectives, literature review, etc. in the dissertation);*
- *Dissertation versus product/portfolio marks distribution (see next page)*

You will need to discuss and agree with your supervisors which type of project is appropriate for you and your proposed project idea.

## Summary of Project Deliverables and associated mark weighting

| | | |
|---|---|---|
| **[A1] Pre-proposal** | Written report | **Proceed / Reject** |
| **[A2] Full Proposal** | Written report | **10%** |
| **Ethics and Risk** | Completed using online systems | **Proceed / Reject** |
| **[A3] Progress Presentation** | Slides and performance | **10%** |
| **[A4] Dissertation* + Product/Portfolio** | Written report + product/portfolio | **70%** |
| **[A5] Project Demonstration** | Presentation / viva | **10%** |

***Please note that the A4 Dissertation + Artefact mark is subdivided dependent on the type of the project:**

| | | |
|---|---|---|
| (a) A4: Standard project | (i) Dissertation 10,000 words | **45%** |
| | (ii) Product | **25%** |
| (b) A4: Portfolio | (i) Dissertation 8,000 words | **25%** |
| | (ii) Portfolio | **45%** |

## Project supervision

Each project student will be assigned:

- A Primary supervisor, with whom the project student *must meet weekly either:*
  - *on a one to one basis for a 30-minute discussion on progress* and for academic advice or
  - *within a group to discuss general plan and progress, to enable peer review, etc.*

  These meetings will be formally registered and student engagement will be actively monitored.

- A Secondary supervisor with whom the project student will meet three times (minimum), either with or without the first supervisor, to provide additional feedback at the following assessment points:
  - Before the submission of the full proposal
  - Before the progress presentation
  - Once the project and dissertation draft is produced

Project students are also advised that they can also arrange additional appointments with their second supervisor and any member of the academic team to gain additional support as needed. Note however that staff who are not directly supervising a project student, are not permitted to comment on the quality, grades or progress of a student's project.

## Project lectures

A series of lectures is provided during the semester, providing support for key aspects of the project. These lectures will be on your timetable and include the following topics:

- Introduction and proposal
- Standard and portfolio projects
- Literature survey and review
- Ethics
- Academic writing
- Project progress presentation
- Data analysis and presentation
- Critical reflection
- Viva preparation

*It is very important that you attend all the lectures and supervisory meeting sessions.*

## The Project Process

### A1: Pre-Proposal (proceed/reject)

The project pre-proposal requires you to succinctly summarise your project idea (max 200 words). It must also indicate four potential supervisors you feel would be suitable to supervise the project. A list of available supervisors and their specialisms is included in the appendices.

*Please note that each supervisor is given a capped quota of projects to supervise and it is therefore not possible for you to select a specific supervisor. The final allocation of your supervisors will be agreed by an academic panel comprising senior members of the department.*

*There is no guarantee that you will get one of your four proposed supervisors. Furthermore, if you do not indicate any preferred supervisors the allocation will be made at the discretion of the panel. Please note that it is very difficult to change supervisors once the allocation process has been completed.*

**Pre-Proposal example:**

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**Student name:** Reggie Smith
**Programme:** BSc GD / GSE
**Title:** *A new game controller to improve procedural audio in computer games.*
**Outline:** This project will design and implement a new sensor-based interface to enable game audio to be controlled by player action. For example, if the player is rapidly activating a fire button or shaking the controller, this information will be detected and used within the game code to procedurally generate a more stimulating audio response. An initial

investigation will be made to establish if sufficient player activity data can be obtained from an existing controller or if additional sensing or a custom controller is a better solution. Subsequently, code will be added to an open source game to monitor the motion data stream and send appropriate cues to a procedural audio generator, which is to be implemented as part of the project. System performance will be characterised using code profiling and game analytic tools. Furthermore, a participant-based evaluation will be made to assess perceived benefits.

**Potential primary supervisors:** Dr Spock / Dr Who / Prof Moriarty / Prof Dumbledore.
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**Submission**

Your project proposal should be submitted as a single, uncompressed PDF file via Turnitin on BS.

**Evaluation of Pre-Proposal**
Your project pre-proposal will be evaluated by an academic panel but not marked. You will then be notified as soon as possible regarding your allocated supervisors, so that you may then meet with them to discuss the development of your full project proposal.

Following allocation of supervisors, the project student and primary supervisor should make contact and mutually agree a suitable weekly meeting time-slot for the 30 minute one to one supervisor meeting. It is strongly recommended that the same time-slot is maintained throughout the duration of the project to ensure consistency of support. Supervisory meetings are normally conducted in the supervisor's office. However, if agreed by all parties, the meetings could be conducted online using MS Teams (or an agreed alternative).

***Student engagement with the project will be closely monitored throughout the semester.***

## A2: Full Proposal (10%)

In the first two weeks, you should expand your approved pre-proposal into a Full Proposal document. Work with your supervisors during this time to define the focus and scope of your project.

The recommended structure for the full proposal is summarised here:

| **Proposal Section (max 1500 words)** | **Contribution to Proposal mark** |
|---|---|
| Abstract (the summary) | 10% |
| Introduction and rationale (the why) | 15% |
| Literature review (other's work) | 15% |
| Aims (the goal) and objectives (the sub-goals) | 20% |
| Methodology (the how) | 20% |
| Project plan (application of methodology) | 20% |
| **Total** | **100%** |

Your Full Proposal should include a minimum of five supporting references from peer reviewed academic publications, such as, journal/conference papers.

**Submission**

Your project proposal should be submitted as a single, uncompressed PDF file via Turnitin on BS.

**Marking Criteria**

Your assignment will be assessed based on the BU Generic Assessment Criteria for Level 6 (Regulation 6F), provided later in the handbook.

The four categories of assessment and associated weightings are summarised below, and the detailed assessment criteria and grade ranges are stated later in the handbook.

- Subject knowledge and understanding (25%)
- Intellectual skills - including analysis, evaluation, and critical judgement (25%)
- Subject-specific skills - including applications and problem solving (25%)
- Transferable skills - including communication and presentation (25%)

## Ethics and Risk documentation (proceed/reject)

*It is an academic offence - subject to disciplinary action to commence any project work involving human participants, without approved ethics documentation.*

Therefore, all project students must complete an ethics checklist. You may also *optionally* be asked by your supervisor to complete a risk assessment.

Where ethical concerns arise, project students and supervisors should seek clarification from the departments Ethics Coordinator, Professor Wen Tang.

The following URLs link to the ethics and risk online tools and supporting documentation:

***BU Ethics checklist:*** https://ethics.bournemouth.ac.uk/ **Mandatory requirement**

***BU Risk Assessment tool:*** http://risk.bournemouth.ac.uk/ **At supervisor's discretion**

***Instructions for completing the online ethics checklist for UG students & Code of Good Research Practice:***
https://brightspace.bournemouth.ac.uk/d2l/le/content/249941/Home?itemIdentifier=D2L.LE.Content.ContentObject.ModuleCO-1543707

***Please make sure that you indicate your primary supervisor in the dialog on the ethics checklist, so the system can notify your supervisor that you have submitted, and they can process your application.***
Once the ethics checklist has been submitted, your supervisor will review it and either

approve it; request further clarification or refer it to a higher-level ethics panel. You will receive an email summarising the outcome.

***Please note that:***
*If the ethical context of your project changes during the project, you must submit an updated ethics checklist and await approval before commencing experimental work.*

## A3: Progress Presentation (10%)

For this assignment, you are expected to create a **progress presentation** which demonstrates the progress so far within your individual project. This is the opportunity to showcase all the work you have done by presenting your work to your supervisors.

The presentation will be given orally within a 30-minute slot in the following way:

- 5 minutes for setting up
- 15 minutes to present
- 10 minutes for questions

Your presentation must confirm the type of project that you are undertaking (standard or portfolio) on the first slide. This decision must be finalised through discussion with your first supervisor prior to the presentation, and **it will not be possible to be changed after this presentation**.

Your presentation must include information and media to explain and demonstrate the following topics:

1. the **context** of your project
2. the **research** carried out in the first part of the project period
3. your **achievements** so far
4. any **prototypes** and **digital outputs** generated so far
5. your **plan** to completion
6. a definition of **deliverables/outputs** to be submitted for your project's final submission

**Examples** of digital media that you could include within the slides (this list is not exhaustive!):

- High resolution images of models
- Images of sketches, designs and visuals related to the development of code or artefacts
- Video footage of a level design walkthrough
- Video footage of games or animations
- Images of storyboards or concept art for a game
- Images or screenshots of summary research data in the form of charts and visualisations
- Screenshots of code extracts, supported by video footage of the corresponding output

The presentations must primarily be very visual and text should be limited to bullet points

rather than full sentences or extensive citations.

**Submission**

You must submit a **SINGLE Powerpoint File** for assessment. The file must have all the relevant media files embedded within itself. You are advised to **check your final submission on a different computer**, to ensure that the media files play correctly.

You should name your submission in the following format:
Firstname_Surname_FYP_Pres.pptx (e.g. John_Smith_FYP_Pres.pptx)

**Marking criteria**

Your assignment will be assessed using the following marking criteria:

1. Context and Research (20%)
2. Current Achievements, Prototypes and Progress (20%)
3. Plans for Completion (20%)
4. Structure, Organisation, Design and Use of Media (slides) (20%)
5. Quality of Presentation/Communication and Response to Questions (20%)

## A4: Dissertation + Product or Portfolio (70%)

For your ***A4: Dissertation and Product or Portfolio*** submission, you are expected to complete a **dissertation** of no more than:

- **10,000 words** for a **Standard project**
- **8,000 words** for a **Portfolio project,**

and create a **digital artefact (product/portfolio)**, both of which are to be submitted online via Brightspace.

The digital artefact (product/portfolio) can vary in type: a video, code, project files in a game engine, etc. Please discuss with your first supervisor what could be most suitable for this.
In terms of your dissertation, you are expected to provide the following four sections in terms of structure (with the outlined, corresponding word counts, as close as possible to the ones described though any minor deviations from this can be discussed with your supervisor in advance, also +/- 10% on the overall word count applies as per your other University assignments).

**1. Abstract, 300 words**
This section is to summarise the project's focus and also outcomes (please write this section last as a brief summary of your work).

**2. Introduction plus Background/Context and Research, 2000 (Portfolio) / 2800 (Standard) words**
This section is expected to introduce your project and its contributions. Also, this section is where you are expected to frame your work in the current body of academic research (for standard projects) or professional practice (for portfolio projects). Work you have read or

seen which has framed a related research challenge or developed content which is in line with what you are undertaking for your own implementation needs to be covered in this section and referenced in a References section at the end of the dissertation.

**3. Research / Development and Implementation Report, 5100 (Portfolio) / 6300 (Standard) words**

This section needs to cover any development/implementation work you have done and/or research results you have obtained and any appropriate analysis and evaluation or critical reflection. As with the other sections, this section in particular will be very subject and topic specific and must be discussed with your supervisor(s). Depending on the project topic and type, you might want to include some of the following subsections: system architecture, character/level/game design, prototype/whiteboxing, integration, implementation, evaluation/study, methodology, data analysis, results, discussion, etc.

Make sure you include visuals, algorithms, pseudo-code, code, etc., as and where appropriate.

**4. Conclusions and Future Work, 600 words**

This section is to cover your achievements/findings/outputs in a concise and reflective way. You should be self-reflective looking at how successful you have been, what you did well and what could have been done better. You should also highlight your own personal learning achievements in terms of developing new skills and knowledge. Finally, you should have a brief discussion on how the project could be improved upon further.

**5. References, not included in the word count**

All the external references used in the dissertation must be listed here using the BU Harvard referencing style (https://libguides.bournemouth.ac.uk/bu-referencing-harvard-style).

***Important notes:***

- *Any Figure/Table/Equations etc. must have a caption that briefly describes the content (it must be self-sufficient but brief) and must be cited within the main text (e.g. see Figure 4, as shown in Table 2, as computed using Equation 5).*
- *Writing a project dissertation is challenging and demanding; hence you are strongly advised to start writing up as early as possible. You are encouraged to discuss the content, structure and presentation of your dissertation with your supervisor and agree an acceptable format.*
- *Expect to continue writing up throughout the Easter vacation period.*
- *You are strongly encouraged to submit a draft dissertation to your supervisor by **Friday 29th April** at the latest. This will enable your supervisor to make recommendations and provide formative feedback on aspects of the submitted draft for final changes before the dissertation is formally assessed. It will NOT be a detailed piece of formal feedback, and you are advised to direct your primary supervisor as to which aspects of the draft you would like them to focus their comment on.*

**Submission**

You must submit the following items for assessment:

1. A **dissertation document** (8000 words for Portfolio or 10000 words for Standard project) in both MS Word (.docx) and PDF file format via the Brightspace **Turnitin link** which can be found on the Individual Project unit;
2. **Digital artefact (product/portfolio)** including any video, audio, code, game engine project files etc., relevant for your project, in ZIP file format. Please only have one single ZIP file (and you can have sub-folders within that if necessary). This will be submitted via **Large File Submission (LFS)**, again made available to you on Brightspace on the Individual Project unit. The BS LFS limit is 3GB. If your work exceeds this limit, please break it into multiple archives and discuss this with your supervisor.

**Marking criteria**

The assessment criteria for the Individual Project dissertation will be based on the BU Generic marking criteria (regulation 6F) which are provided for reference later in the handbook.

*You are strongly encouraged to ensure that the content of your dissertation appropriately reflects each of these assessed elements:*

1. Subject knowledge and understanding
2. Intellectual skills
3. Subject-specific skills
4. Transferable skills

A4 carries 70% of the final unit mark. This will be further divided, depending on the project type, as shown below:

| Project type | Dissertation | Digital artefact |
|---|---|---|
| Standard | 45% | 25% |
| Portfolio | 25% | 45% |

The proposed sections of the **dissertation** element will be assessed using the following categories of assessment:

- The **abstract** will be assessed based on the Transferable skills – including communication and presentation category of assessment (point 4 above).
- **Sections 2, 3 and 4** will be assessed based on all four categories of assessment with equal weightings (25% each).
- **References** will be assessed using categories of assessment 1 and 4 listed above, with equal weightings (50% each).

The **digital artefact** will be assessed against the design and development described in the dissertation and the corresponding work demonstrated in the product/portfolio. The criteria might include design, originality, integration, creation, implementation, functionality, etc. depending on the project type and topic.

## A5: The Project Demonstration/VIVA (10%)

Following submission of your project dissertation you will be required to attend a project demonstration/viva which will usually comprise a project review presentation and demonstration of the outcomes of the project.

The viva is invaluable in allowing you to showcase your project to your supervisors and enabling them to gain clarification on any issues arising from their evaluation of your dissertation. Depending on the circumstances and the nature of teaching (face to face, online), the demonstration/viva will take place in a suitable venue appropriate for your project e.g. lab, seminar room, etc. through agreement with your supervisors, or online.

The structure of the Viva should follow this format:

- 5 minutes student setup
- 15 minutes student presentation
- 10 minutes Q&A session with supervisors and supervisee

The presentation should be supplemented with visual and/or audio materials where appropriate (as with A3).

**Marking criteria**

Your assignment will be assessed using the following marking criteria:

**Academic content 40%**

- Knowledge and understanding of core material
- Extent, quality and appropriateness of research
- Conceptual grasp of issues, quality of argument and ability to answer questions

**Quality of structure 30%**

- Pacing of presentation
- Effective use of visual material - visual aids, screen sharing (as appropriate)
- Organisation/structure of material (intro; main body; conclusion)

**Quality of communication 30%**

- Audibility, liveliness and clarity of presentation
- Confidence and fluency in use of language
- Listening skills: responsiveness to audience

# BU Generic Assessment Criteria for Level 6 (Regulation 6F)

| Level 6 Grade Range | | Subject knowledge and understanding – including theories and concepts | Cognitive skills - including analysis, evaluation,and critical judgement | Practical skills – including the use of techniques of analysis and enquiry and of integrating theory and practice. | Transferable skills - including communication, exercise of initiative,personal responsibility and decision-making. |
|---|---|---|---|---|---|
| **High First**<br><br>**80% +**<br><br>**Exceptional or outstanding** work overall | Feedback | The work demonstrates exceptional knowledgeand understanding of the subject and the theories, paradigms, concepts and principles associated with it, beyond what has been taught.<br>Very extensive independent investigation, analysis, and research has been demonstrated,underpinned by extensive exploration of significant sources. | The work demonstrates exceptional ability to select, consider, evaluate, comment on and synthesise a broad range of significant sourcesusing appropriate referencing.<br>Outstanding, consistent, logical, coherently developed and substantiated arguments are demonstrated.<br>A wide range of views and information are systematically considered, critically evaluated and synthesised. Highly sophisticated perception, critical insights and interpretation ofcomplex ideas are demonstrated.<br>Outstanding range of extremely well-developed problem-solving skills.<br>Exceptional creative flair and originality demonstrated. | The work demonstrates an exceptionally accomplished and innovative application of discipline-specific specialist skills.<br>Independent completion of practical tasks and/or processes with an outstanding degree of accuracy, co-ordination and proficiency has been demonstrated.<br>A full range of exceptional technical, creative and/or artistic skills has been demonstrated.<br>Research findings are perceptively, convincingly and appropriately presented, in a wide range of formats. A wide range of complex data has been gathered, processed and interpreted efficiently and effectively to an outstanding level. | Ideas, problems and solutions are communicated to an exceptional level in verbal, written and electronic formats. Thestyle is accurate, fluent and sophisticated.<br>Exceptional numeracy and digital literacy skills are demonstrated.<br>Clear, authoritative and valuable contributions to group work and/or project work are demonstrated along with exceptional teamwork and leadership skills. Exceptional ability of self-managed learning using initiative and working independently isdemonstrated.<br>Exceptional application of initiative and/orpersonal responsibility is demonstrated. Very high degree of autonomy demonstrated (in what might be complex and unpredictable circumstances). |
| | Feedforward | Future work could contain even further broaderand deeper understanding of the subject. | Future work could contain an even deeper and more extensive critical approach with extendedanalysis and evaluation. | Future work could demonstrate even further synthesis of theory and practice with additional innovation and insights and further skills in research. | Future work could demonstrate evenfurther-enhanced skills. |
| **First**<br><br>**70 - 79%**<br><br>**Excellent** work overall | Feedback | The work demonstrates excellent knowledgeand understanding of the subject, and the theories, paradigms, concepts and principlesassociated with it, beyond what has been taught.<br>Extensive independent investigation, analysis,and research has been demonstrated, using significant sources. | The work demonstrates excellent ability to select, consider, evaluate, comment on and synthesise a broad range of sources using appropriate referencing.<br>Consistent, logical, coherently developed and substantiated arguments are demonstrated.<br>A wide range of views and information is systematically considered, critically evaluated and synthesised. Sophisticated perception, critical insights and interpretation of complex ideas are demonstrated.<br>Very wide range of extremely well-developed problem-solving skills. High degree of autonomy demonstrated in complex and unpredictablecircumstances.<br>Excellent creative flair and originality demonstrated. | The work demonstrates an accomplished and innovative application of discipline-specific specialist skills.<br>Autonomous completion of practical tasks and/or processes with an excellent degree of accuracy, co-ordination and proficiency has been demonstrated.<br>A full range of excellent technical, creative and/or artistic skills has been demonstrated.<br>Research findings are perceptively, convincingly an appropriately presented, in a wide range of formats. A wide range of complex data has been gathered, processed and interpreted efficiently and effectively to an excellent level. | Ideas, problems and solutions are communicated to an excellent level in verbal, written and electronic formats. The style is accurate, fluent and sophisticated. Excellent numeracy and digital literacy skillsare demonstrated.<br>Clear, authoritative and valuable contributions to group work and/or project work are demonstrated along with excellentteamwork and leadership skills.<br>Excellent ability of self-managed learning using initiative and working independently is demonstrated.<br>Excellent application of initiative and/or personal responsibility is demonstrated. An excellent ability to reflect critically andindependently on work produced is demonstrated. |
| | Feedforward | Future work could demonstrate a deeper and broader understanding of the subject, includingtheories and concepts. | Future work could offer greater critical appraisalin the analysis, evaluation and synthesis of the material with appropriate referencing. | Future work could demonstrate an even higher level of ability in practical skill, researchskills and the integration of theory and practice. | Future work could demonstrate a higher level of an extensive range of transferableskills. |

| | | | | | |
|---|---|---|---|---|---|
| **Upper Second**<br><br>**60 - 69%**<br><br>**Very good** work overall | Feedback | The work demonstrates very good breadth anddepth of knowledge and understanding of theories, paradigms, concepts and principles with clear critical insights.<br>Thorough independent investigation, analysis,and research has been demonstrated.<br>Significant and up-to-date sources have beenidentified and used effectively. | The work demonstrates a thorough approach toselection, critical evaluation of sources, usually beyond the set range.<br>The ability to make coherent, substantiated arguments as well as critical evaluation and synthesis of a range of views and information is demonstrated, using appropriate referencing. Complex matters and ideas are presented in a thoughtful, preceptive and thorough approach. Thorough problem-solving, and decision-makingwith a degree of autonomy in complex and unpredictable circumstances are demonstrated.A very good level of creativity and originality is shown throughout the work. | The work demonstrates a very good level of application of discipline-specific specialist skills.<br>Practical tasks or processes are performed autonomously with very good level of accuracy and coordination.<br>A very good command of highly relevant technical, creative and/or artistic skills is demonstrated.<br>Thorough research findings are presented perceptively and appropriately in a wide range of formats. Complex data has been gathered, processed and interpreted efficiently and effectively. | Ideas, problems and solutions are communicated with a very good degree of proficiency, verbally, electronically and in writing.<br>The style is clear, fluent and expressive with appropriate vocabulary. A very good standard of numeracy and digital literacy skills are demonstrated.<br>Strong and valuable contributions to group work and/or project work are demonstrated along with and very good understanding of teamwork and leadership roles.<br>A very good ability to systematically self- manage learning and work independently is demonstrated.<br>Very good use of initiative and/or personal responsibility is demonstrated.<br>A very good ability to reflect critically and independently on work produced is demonstrated. |
| | Feedforward | Future work could demonstrate more developed understanding using a wider range of relevant sources. | Future work could offer more detailed analysis,synthesis and criticality with further developed<br>arguments. | Future work could demonstrate a higher levelof ability in practical skills, research skills and the integration of theory and practice. | Future work could demonstrate enhancedtransferable skills. |
| **Lower Second**<br><br>**50 - 59%**<br><br>**Good** work overall | Feedback | The work demonstrates the development of sound knowledge and understanding of theories, paradigms, concepts and principles, which may sometimes be descriptive rather than critical or analytical.<br>Investigation, analysis, and research has been conducted using a limited range of important sources and some important concepts have not<br>been explored. | The work demonstrates a sound approach to selection, critical evaluation of sources, sometimes beyond the set range.<br>The ability to evaluate a range of views and information, argue logically, with supporting evidence is demonstrated, using mostly appropriate referencing.<br>Complex matters and ideas are explained clearly and consistently.<br>Problem-solving, and decision-making in complex and unpredictable circumstances aredemonstrated.<br>A good level of creativity and originality is demonstrated in the work. | The work demonstrates a good level of application of discipline-specific specialistskills.<br>Practical tasks or processes are performed mainly independently with a good level of accuracy and coordination.<br>A good command of highly relevant technical, creative and/or artistic skills is demonstrated.<br>Research findings are presented perceptively and appropriately in a range of formats. Data have been gathered, processed and interpreted efficiently and effectively. | Ideas, problems and solutions are communicated with a good degree of proficiency, verbally, electronically and inwriting.<br>The style is clear, fluent and expressive withappropriate vocabulary. A good standard ofnumeracy and digital literacy skills are demonstrated.<br>Coherent and constructive contributions to group work and/or project work aredemonstrated.<br>A good ability to systematically self-managelearning and work independently is demonstrated.<br>Good use of initiative and/or personalresponsibility is demonstrated.<br>A good ability to reflect critically andindependently on work produced is demonstrated. |
| | Feedforward | Future work could demonstrate wider readingof key texts and sources and a deeper and broader understanding. | Future work could offer more analysis, synthesisand criticality with more clearly expressed arguments. | Future work could demonstrate more development of practical skills, research skills and integration of theory and practice. | Future work could demonstrate more clearlydeveloped transferable skills. |

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| **Third Class**<br><br>**40 - 49%**<br><br>**Basic** level of work overall | Feedback | The work demonstrates a basic knowledge and understanding of the subject including theories,paradigms, concepts and principles.<br>General investigation, analysis, and researchhas been using basic sources with limited understanding of relevant points.<br>Some important sources and concepts have notbeen explored. | A basic ability to select, evaluate and commenton reading, research and primary sources is demonstrated.<br>The ability to devise and sustain an argument, with some consideration of alternative views and to explain often complex matters and ideas is demonstrated. Some appropriate referencing,which may need development.<br>An ability to solve problems by applying a rangeof methods and making decisions in complex and unpredictable circumstances is demonstrated.<br>A basic level of creativity and originality is demonstrated in the work | The work demonstrates evidence of developing and applying discipline-specificspecialist skills.<br>Practical tasks and/or processes have been completed accurately and with a degree of independence.<br>Technical creative and/or artistic skills havebeen demonstrated.<br>Research findings have been presented in several formats and data have been gathered, processed and interpreted effectively. | Ideas, problems and solutions are communicated with a basic level of proficiency, in verbal, electronic and writtenformats.<br>The style is clear in parts with appropriate vocabulary. A basic standard of numeracy and digital literacy skills are demonstrated.Basic contributions to group work and/or project work are demonstrated.<br>A basic ability to systematically self-managelearning and work independently is demonstrated.<br>Limited use of initiative and/or personalresponsibility is demonstrated.<br>A limited ability to reflect critically andindependently on work produced is demonstrated. |
| | Feedforward | In future work extended reading of key sources is needed in order to develop and demonstrate subject knowledge and understanding, and to present theories and concepts in more detail. | In future work it is important to provide more clearly developed analysis and critical appraisalwith appropriate referencing. | In future work more clearly developed links between theory and practice are required, along with clearly presented research findings. | Future work must demonstrate a greaterrange of transferable skills. |
| **Fail**<br><br>**30-39%**<br><br>**Insufficient** level of work overall | Feedback | The work shows an insufficient and inadequatelevel of knowledge and understanding of theories, paradigms, concepts and principles and their limitations. Breadth and depth are lacking with misunderstandings or incomplete understanding in key areas<br>Evidence of background investigation, analysis,and research is insufficient. | The work demonstrates an over-reliance on setsources. The ability to select and evaluate reading and research is insufficiently demonstrated.<br>Arguments and explanations are weak and/or poorly constructed. The ability to critically evaluate arguments or to consider alternative views has not been demonstrated.<br>Referencingmay need development.<br>The work demonstrates a limited ability to solveproblems and/or make decisions.<br>Little or no creativity or originality is demonstrated. | The work does not demonstrate sufficient evidence of developing and applying discipline-specific specialist skills.<br>Practical tasks and/or processes have been attempted and with little or no independence.<br>A lack of technical creative and/or artistic skills has been demonstrated in most, or key, areas.<br>Limited, procedural or mechanistic approaches, with errors are demonstrated.<br>Research findings have not been presented clearly or effectively and gathering, processing and interpreting is unsatisfactory. | Ideas, problems and solutions are unclearlyexpressed verbally, electronically and in writing. Inaccurate terminology, and errors in spelling, vocabulary and syntax are present. A basic level of numeracy and digital literacy skills is not demonstrated. Infrequent contributions have been made togroup discussions and/or project work.<br>Little or no ability to self-manage learningand/or work without supervision is demonstrated.<br>Insufficient initiative or personal responsibility is demonstrated., with little orno ability to reflect on the work submitted. |
| | Feedforward | Future work must demonstrate more accurate knowledge and understanding gained from key sources. | Future work must contain some clear analysis and appraisal, using more accurate referencing. | In future work links between theory andpractice are required along with clearly presented research findings. | Future work must demonstrate a clearerrange of transferable skills. |
| **Poor Fail**<br><br>**0-29%**<br><br>A poor levelof work overall | Feedback | The work shows limited or no evidence of knowledge and understanding of the subject.<br>Breadth and depth is lacking with deficienciesin key areas.<br>Understanding of theories, paradigms, concepts and principles and their limitations is not evident.<br>Evidence of background investigation, analysis,and research is missing. | The ability to select and evaluate appropriate reading and research is not demonstrated.<br>Arguments and explanations are very weak and/or missing. The ability to critically evaluate arguments or consider alternative views has notbeen demonstrated.<br>Referencing may need development.<br>The work does not demonstrate the ability to solve problems and/or make decisions.<br>Creativity is lacking. | Evidence of developing and applying discipline-specific specialist skills is lacking.Many errors and gaps are demonstrated.<br>Research findings have not been presented clearly or effectively and gathering, processing and interpreting is lacking or very unsatisfactory. | Ideas, problems and solutions are very unclearly expressed verbally, electronically and in writing.<br>Inaccurate terminology, and errors in spelling, vocabulary and syntax arepresent. A poor level of numeracy and digital literacy skills is demonstrated.<br>Contributions to group discussions and/orproject work are poor.<br>Little or no ability to self-manage learningand/or work without supervision is demonstrated.<br>Poor initiative or personal responsibility isdemonstrated, with little or no ability to reflect on the work. |
| | Feedforward | Future work must demonstrate knowledge andunderstanding gained from key sources. | Future work must contain some clear analysis and appraisal, using more accurate referencing. | In future work links between theory andpractice are required along with clearly presented research findings. | Future work must demonstrate a range oftransferable skills. |

# Additional Project related information

**Scope of a Portfolio Project**

The creative portfolio is a major part of this type of project and can take several forms that are ultimately *negotiated and agreed between you and your supervisor*. The portfolio should form a substantial body of creative or technical work and demonstrate and reflect an understanding of contemporary work in the chosen field. Outcomes in the portfolio should be of high quality and demonstrate technical, creative, and professional skills relevant to the project area. It is imperative that the dissertation for a portfolio project is tightly linked to the project portfolio through appropriate cross-referencing and critical reflection.

**Portfolio exemplars (BSc Games Software Engineering)**

1. One significant or three smaller libraries for performing tasks within a specific domain. For example, playing audio, performing physics, UI generation or handling input. Each library would be developed with a test framework that facilitated adding new tests. Developed to be cross platform and highly portable (little or no dependencies), each library would also have a user manual and code documentation to support it.
2. One significant or three smaller technical demos utilising DirectX / OpenGL or similar. These demos would show state of the art technical effects such as HDR imagery, tone mapping, physically based shading, shadow maps or particle effects. Strategies such as deferred or forward rendering or similar state of the art techniques can also be implemented. The technical demos may also target some dedicated part of GPU architecture.
3. One completed and playable game, delivered on any end platform, using a toolset such as DirectX or OpenGL. The game may focus on the technical design and optimisation planning or may target algorithmic implementations such as AI path finding or walkability testing.
4. Several algorithm implementations, which should be negotiated with your project supervisor to be representative of the workload required. For example, you may wish to investigate reinforcement learning, genetic algorithms, probabilistic graphical models or graph-based planning systems. This should be contextualised by narrative within the accompanying thesis of how these would be applied within a game.

**Portfolio exemplars (BSc Games Design)**

The examples below are not exhaustive; they do however offer an illustration of what should generally comprise a creative portfolio dissertation for Games Technology;

1. Three inorganic (i.e. vehicles etc.) or organic (i.e. human character etc.) models, fully textured, of a specific polygon/triangle count for each one and with a common narrative tying these together (not necessarily of the same theme, the narrative could be linked, for example, to the specific skillset addressed by each one)
2. Three completed, fully-lit, textured and functional (i.e. playable) game levels/environments (of any genre), which can operate in run-time in a contemporary engine such as Unreal or Unity

3. One completed and playable game (on any end platform) using a contemporary game engine, of any genre, which has at least 3 substantial levels incorporated to it and a boss enemy/final challenge which compares in quality to professional indie efforts
4. Seven completed manually keyframed character animations, of a duration of 5-10 seconds each, on a human/humanoid character model that has been rigged by the student, of specific movements typically found in a contemporary game

**Dissertation style for Portfolio based projects**

The dissertation should review relevant academic literature, but also contextualise the approaches taken with respect to influential contemporary professional practice. It should also outline the methodological approach used, based on relevant techniques and strategies of practice. It must show a level of critical reflection of the work, within the defined project context.

**Guidelines for format of the dissertation**

The final structure of your dissertation should be discussed and agreed with your primary supervisor. However, recommended formats for each type of project are given below for guidance:

***Indicative format for a <u>Standard Project dissertation</u>***

- Official front cover (see appendix)
- Dissertation Declaration (see appendix)
- Permission for use of produced work (see appendix)
- Acknowledgements
- Abstract
- Contents page(s)
- Chapter 1 Introduction including aims and objectives
- Chapter 2 Background theory and Design process
- Chapter 3 Details of the development process and test/evaluation methods.
- Chapter 4 Results of test and evaluation of the software and/or hardware product.
- Chapter 5 Discussion of results and conclusions including critical reflection.
- References cited and listed using BU Harvard format.
- Appendices - *the appendices should include relevant supporting documentation and the approved ethics checklist.*

***Submission guidelines for a Standard Project dissertation***

- A Standard project dissertation has a word count of 10,000 words (+/-10%).
- Write in passive voice, although the critical reflection may be in 1st person.
- Submit electronically online in <u>both</u> MS Word and PDF compatible formats.

***Indicative format of a <u>Portfolio Project dissertation</u>***

- Official front cover (see appendix)
- Dissertation Declaration (see appendix)
- Permission for use of produced work (see appendix)
- Acknowledgements

- Abstract
- Contents page(s)
- Chapter 1 Introduction and context including aims and objectives
- Chapter 2 Review of literature and/or professional practices
- Chapter 3 Methodology and process
- Chapter 4 Critical reflection
- Chapter 5 Conclusions and future work
- References cited and listed using BU Harvard format.
- Appendices - *the appendices should include all supporting project documentation*

***Submission guidelines for a Portfolio Project dissertation***

- A Portfolio project dissertation has a word count of 8,000 words (+/-10%).
- Write in passive voice, although the critical reflection may be in 1st person.
- Submit electronically online in both MS Word and PDF compatible formats.

**Note:** Word count is based on the main body of the project dissertation which is all text excluding the references and appendices.

## Individual project AY 2021-2022 Supervisors and areas of specialism

This list identifies the supervisory team and their areas of specialism.

**Fred Charles:**
Interactive Storytelling; Virtual Reality; Augmented Reality; Brain-Computer Interfaces; Artificial Intelligence; Human-Computer Interaction.

**Jose Fonseca:**
Character Animation; 3D Modelling; Character Design.

**Glyn Hadley:**
3D modelling; Digital sculpting; Biomedical; Physics.

**Charlie Hargood:**
Interactive Storytelling; Game Design; Digital Narrative; Narrative systems; Hypertext; Locative experiences.

**Vedad Hulusic:**
Serious Games; Edutainment; VR/AR Games and Interfaces; Virtual Reconstruction of Cultural Heritage/Virtual Museums.

**David John:**
Virtual Reality; Visualisation of Historic Environments; Navigation of VR; VR for Mobile Devices.

**Leigh McLoughlin:**
Computer Graphics and Animation; OpenGL.

**Karsten Pedersen:**
C, C++; SDL; OpenGL; Game engines; Networking; UNIX, Linux, Android.

**Simant Prakoonwit:**
Automatic/procedural 3D object creation; 3D object reconstruction; Artificial Life in computer games; Artificial Intelligence in computer games; Virtual and Augmented Reality.

**Alain Simmons:**
Asset Creation for games (Modelling, bitmap and procedural texturing, animation); Gameplay; Games and education; Computer Graphics; Game Engine (Unity) and SDK implementations; Interactive Scale Model Games (semi VR).

**Wen Tang:**
Computer Graphics; Virtual Reality; Physics based simulation; Algorithms; Games Engines. Augmented reality, gamification, image recognition and object matching.

**Andrew Watson:**
Games software development in C, C++.

**Huiwen Zhao:**
Game Art, Interactive Storytelling; Digital Narrative.

## THE LEARNING OUTCOMES

This assignment will assess the following ILOs:

1. Explore the current state of the art of an area related to the degree title via a literature review or investigation into contemporary and relevant production practices
2. Apply the appropriate production, development or research methodology approaches and techniques to implement a solution consistent with a stated design specification
3. Evidence the validation of a solution with approaches such as benchmarking, performance testing or user testing using qualitative and/or quantitative methodologies
4. Present the outcomes of a large scale individual project in verbal and written form across its timeline

## HELP AND SUPPORT

- If a piece of coursework is not submitted by the required deadline, the following will apply:

    1. If coursework is submitted within 72 hours after the deadline, the maximum mark that can be awarded is 40%. If the assessment achieves a pass mark and subject to the overall performance of the unit and the student's profile for the level, it will be accepted by the Assessment Board as the reassessment piece. The unit will count towards the reassessment allowance for the level; This ruling will apply to written coursework and artefacts only; This ruling will apply to the first attempt only (including any subsequent attempt taken as a first attempt due to exceptional circumstances).

2. If a first attempt coursework is submitted more than 72 hours after the deadline, a mark of zero (0%) will be awarded.
3. Failure to submit/complete any other types of coursework (which includes resubmission coursework without exceptional circumstances) by the required deadline will result in a mark of zero (0%) being awarded.

The Standard Assessment Regulations can be found on **Brightspace**.

- If you have any valid **exceptional circumstances** which mean that you cannot meet an assignment submission deadline and you wish to request an extension, you will need to complete and submit the Exceptional Circumstances Form for consideration to your Programme Support Officer (based in C114) together with appropriate supporting evidence (e.g, GP note) normally **before the coursework deadline**. Further details on the procedure and the exceptional circumstances form can be found on **Brightspace**. Please make sure that you read these documents carefully before submitting anything for consideration. For further guidance on exceptional circumstances please see your Programme Leader.
- You must acknowledge your source every time you refer to others' work, using the **BU Harvard Referencing** system (Author Date Method). Failure to do so amounts to plagiarism which is against University regulations. Please refer to http://libguides.bournemouth.ac.uk/bu-referencing-harvard-style for the University's guide to citation in the Harvard style. Also be aware of Self-plagiarism, this primarily occurs when a student submits a piece of work to fulfill the assessment requirement for a particular unit and all or part of the content has been previously submitted by that student for formal assessment on the same/a different unit. Further information on academic offences can be found on **Brightspace** and from https://www1.bournemouth.ac.uk/discover/library/using-library/how-guides/how-avoid-academic-offences
- Students with **Additional Learning Needs** may contact Learning Support on www.bournemouth.ac.uk/als
- You should not be conducting any primary research (i.e. carrying out an investigation to acquire data first-hand, for example, where it involves approaching participants to ask questions or to participate in surveys, questionnaires, interviews, observations, focus groups, etc.) unless otherwise specified in the brief. However, if there is a genuine requirement to collect primary research data you will require ethical approval before doing so. In the first instance, please discuss with the Unit Leader. The collection of primary data without appropriate ethical approval is a serious breach of Bournemouth University's Research Ethics Code of Practice and will be treated as Research Misconduct.
- **If you have any problems submitting your assignments please contact the IT Service Desk - +44(0)1202 965515 - immediately and before the deadline**

**Disclaimer:** The information provided in this assignment brief is correct at time of publication. In the unlikely event that any changes are deemed necessary, they will be communicated clearly via e-mail and Brightspace and a new version of this assignment brief will be circulated.

## Appendix 1 – Cover page

Bournemouth University

Faculty of Science and Technology

BSc (Hons) Type Your Degree Course Title Here

May 2022

*Type your project title here*

by

*Type your name here*

# Appendix 2 – Dissertation Declaration

This Declaration form should be included in the front matter of Dissertations and be signed as appropriate.

**DISSERTATION DECLARATION**

This Dissertation/Project Report is submitted in partial fulfilment of the requirements for an honours degree at Bournemouth University. I declare that this Dissertation/ Project Report is my own work and that it does not contravene any academic offence as specified in the University's regulations.

**Retention**
I agree that, should the University wish to retain it for reference purposes, a copy of my Dissertation/Project Report may be held by Bournemouth University normally for a period of 3 academic years. I understand that my Dissertation/Project Report may be destroyed once the retention period has expired. I am also aware that the University does not guarantee to retain this Dissertation/Project Report for any length of time (if at all) and that I have been advised to retain a copy for my future reference.

**Confidentiality**
I confirm that this Dissertation/Project Report does not contain information of a commercial or confidential nature or include personal information other than that which would normally be in the public domain unless the relevant permissions have been obtained. In particular, any information which identifies a particular individual's religious or political beliefs, information relating to their health, ethnicity, criminal history or personal life has been anonymised unless permission for its publication has been granted from the person to whom it relates.

**Copyright**
**The copyright for this dissertation remains with me.**

**Requests for Information**
I agree that this Dissertation/Project Report may be made available as the result of a request for information under the Freedom of Information Act.

Signed:

Name:

Date:

Programme: BSc GD / BSc GSE (delete as appropriate)

## Appendix 3 – Permission for use of produced work

**Permission for use of produced work**

We ask you to sign this form because Bournemouth University Higher Education Corporation (**BU**) may wish to use your Individual Project material (in its original or an amended form) for marketing purposes in one or more of the following ways:

- prospectuses and other BU promotional materials, including promotional videos
- as part of an advert or advertisement feature (which includes possible use on outdoor media such as buses and billboards)
- on the BU websites or intranet
- at open days
- in social media

If we used it, you would receive exposure for your work. You do not have to agree, and not doing so will have no effect on marking your Individual Project material. For ease this is simply called Material below.

If you are kind enough to agree to BU having rights of use and editing, this will not affect your ownership rights in the Material or your right to use it for your own professional or personal reasons. Unless it is impractical to do so – for example a montage on social media where space limits may apply, BU will ensure that it credits you for BU's use of the Material.

**By signing this form:**

- I grant a non-exclusive, world-wide, royalty-free licence to BU to use and sub-licence the Material, for marketing purposes; and I waive any non-property rights (including moral rights) now or in the future existing. This licence includes the right to edit and create derivative works from the Material, for example, a multi-student showreel.

- I agree this licence shall subsist permanently unless I seek to end it in line with the procedure below; but that where BU has already used, or is committed to using, the Material for a particular marketing campaign - for example, in a prospectus already printed, any ending of the licence shall relate only to new uses of the Material.

- **I understand BU will not ask me for any further approval or permission for specific uses of the Material for marketing purposes; but that I can withdraw my permission at any time, with the consequences for continued use set out above.**

If you wish to withdraw your permission for use of your information, please contact the Programme Support Officer by e-mail scitechcreativepso@bournemouth.ac.uk. Otherwise, we will keep your Material and associated personal information for as long as we have any plan to, or actively, use the Material for marketing purposes.

The legal basis for BU processing your personal information is consent, that is by signing this form you are giving permission to use your personal information provided in, and in relation to, the Material for the purposes set out above.

In processing your personal data, BU complies with the Data Protection Act 2018 and General Data Protection Regulation (Regulation (EU) 2016/679). You can find further information about BU's data protection and privacy approach here: https://www.bournemouth.ac.uk/about/governance/access-information/data-protection-privacy.

Further information about your rights under the data protection legislation can be found from our Data Protection Officer on dpo@bournemouth.ac.uk.

I give permission for BU to use my Material on the basis set out above:

Signed:

Name:

Date: