



Project acronym: FORGE

Project full title: "Forging Online Education through FIRE"

Grant agreement no: 610889

Opening the FORGE platform – Open Call announcement

Detailed information about the open call can be retrieved online: www.ict-forge.eu/opencall

Language in which the proposal must be submitted: English

Contact: opencall@ict-forge.eu

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1 Executive Summary

Forging Online Education through FIRE (FORGE) is a project bringing the FIRE¹ and eLearning worlds together. FORGE expects to create an environment for introducing the eLearning community to the experimentally driven research but also to act as a training facility for FIRE in general. This project specifies development methodologies and best practices for offering FIRE experimentation facilities to learners and to the learning community in general. For this, the project has already developed a number of prototype courses targeting both the content specific learning goals of the course (such as understanding a certain communication protocol) and the basic and advanced usage of FIRE facilities for creating experiments.

Through this continuous open call the project opens up the FORGE platform to anyone interested to contribute or use the methodologies and tools that have been developed within the project together with FIRE facilities. Within the call the project solicits proposals for the development or use of experiment-driven courses and offers the chance to educational institutions to include these innovative courses to their curricula. FORGE is seeking contributions and new developments of educational material within the FORGE platform and tools.

This document contains the basic information needed to guide all interested parties in preparing a proposal to access and become a part of the FORGE world. It also describes how a proposal should be submitted to this continuous open call and the key criteria that should be taken into account in the description of the proposal.

2 Introduction to FORGE

During the last few years, experimentally driven research has emerged as a Future Internet paradigm for validating new architectures and systems at scale through testing-scenarios and under realistic environments. Until recently, testbeds used in testing activities have usually had a certain scope of testing capabilities. Organizations own resources and infrastructure (i.e. networking devices, gateways, wireless devices), which they offer and combine with resources of other infrastructures in order to enable richer and broader experimentation scenarios.

Experimentally driven research addresses the need to evolve the testbeds into coherent experimentation facilities. This is possible by delivering large-scale federated infrastructures of exposed organizational resources and testbed facilities. Such future experimental facilities are led by the European effort of FIRE or the US GENI².

FORGE's main objective is to provide an ecosystem for introducing the eLearning community to the FIRE experimental facilities. Also, to promote the concept of experimentally driven research in education by using experiments as an interactive learning and training channel for both students and professionals and by raising the accessibility and usability of FIRE facilities. Within the open FORGE community and ecosystem educational resources, collaborative tools and proposed experiments are offered and contributed for free.

¹ Future Internet Research and Experimentation: www.ict-fire.eu

² <http://www.geni.net/>



Figure 1: The FORGE objective

FORGE follows the approach outlined in Figure 2 to bridge the gap between the areas of eLearning community and the FIRE experimental facilities. FORGE expects to create an environment for introducing the eLearning community to the experimentally driven research but also to act as a training facility for FIRE in general.

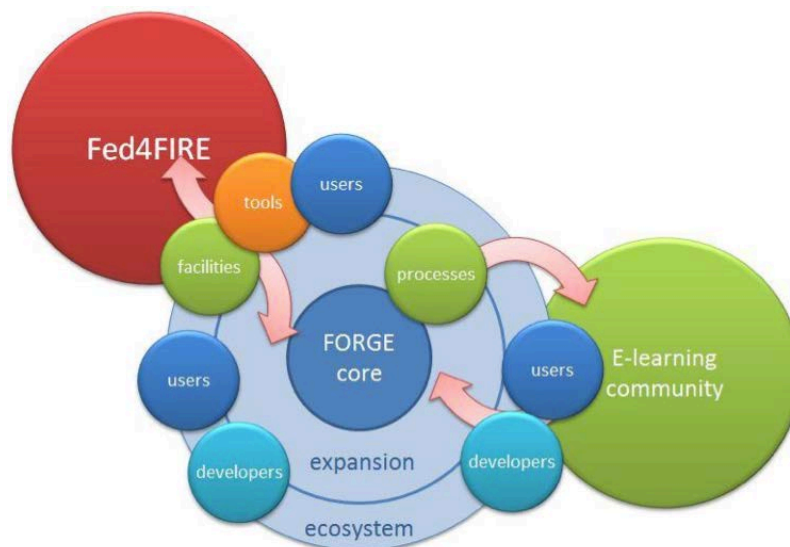


Figure 2: The FORGE approach

For this, the project has already developed a number of prototype lab courses targeting both the content specific learning goals of the course (such as understanding a certain communication protocol) and the basic and advanced usage of FIRE facilities for creating experiments. These prototype lab courses (a) serve as exemplars for the educational community (so they can have a look at how these example courses are made when creating their own course) and (b) also enhance the access of educationalists to the FIRE facilities (as the example courses explain how to use FIRE facilities). These courses are available at the project's website: <http://ict-forge.eu/> and at: <http://www.forgebox.eu/fb/index.php>.

The FORGE consortium creates a set of processes, tools and widgets to facilitate the development of lab courses. The pilot prototype lab courses have generated requirements for learning tools along a number of dimensions including overall functionality and interaction qualities.

In order to deploy the proposed approach, FORGE has developed and uses the following elements:

- **FORGEBox:** FORGEBox (<http://www.forgebox.eu/>) is the component that interconnects learning interactive content with FIRE resources. It comprises a set of services that will provide and host for example the interactive content of widgets, and interface with the FIRE resources via well-known FIRE APIs or with the Fed4FIRE portal. LMSs, eBooks and any future element that wishes to consume FORGE content, will need to discover reference points of widgets and Lab Courses descriptions. FORGEBox instantiations can provide the host of such interactive content.

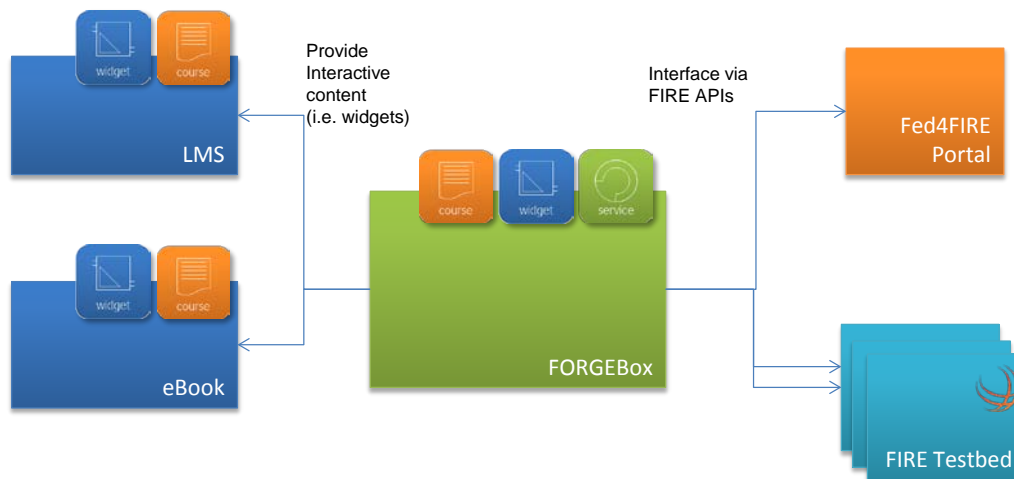


Figure 3: FORGEBox interconnection view

- **FORGESTore:** FORGESTore (<http://www.forgestore.eu/#/>) is a marketplace for the users' FORGEBox installation. The repository contains shared widgets, FORGEBox services, FIRE adapters and shared interactive courses. All items are developed by the FORGE team members as well as external stakeholders that are interested to create and share learning material for FIRE experimentation.
- **Widget:** A widget is a micro-application performing a dedicated task. FORGE and/or external stakeholders develop a number of widgets that will expose FIRE facilities to learners and educators. These widgets function as standalone learning applications that will be embedded inside interactive courses.
- **FIRE Adapter/ Service:** A FORGEBox service or FIRE Adapter enables a widget to communicate with the FIRE facilities with the functionality that is required for usage in an eLearning context.
- **Course:** A FORGE course is a self-study learning pathway that leads to achieving certain learning outcomes. Most commonly, the learners will study the course at their own pace, since there is no predefined start or end time.

More details about the FORGE architecture can be found in deliverable D4.1.1, available at: <http://ict-forge.eu/wp-content/uploads/2014/08/FORGE-2014-P-D411-Final.pdf>.

3 Opening the FORGE platform call information

3.1 Objective of the call

Apart from the courses developed within the FORGE consortium, it is crucial for the community to be engaged and benefit as well. Therefore, the present open call is a means to open up the FORGE tools, processes and platform to the community and potential users and contributors. Through this open call the project opens up the FORGE platform to volunteers from the learning community and elsewhere, who want to exploit FIRE facilities for educational purposes and contribute to the FORGE ecosystem. The goal of the open call is to invite any interested party to use or contribute to the platform/portal/tools of FORGE together with FIRE facilities and build lessons and lab courses using these tools.

The project consortium will support these community-driven courses in building their courses by implementing requested widgets, tools and application programming interfaces (APIs) with the project tools that are developed within the project. Interested parties will connect their systems to the projects' tools following the defined FORGE approach.

The achievements and feedback collected through this call will be evaluated by the FORGE consortium and the main results will be presented to the community as part of the project's dissemination strategy.

3.2 Proposal submission

The opening of the FORGE platform is a continuous process initialised by the present announcement and will last for the second half of the project (i.e. until September 2016). The open call will be launched as continuous open access to the FORGE tools, meaning that no strict procedures for proposal submission and evaluation will be applied. The FORGE consortium will provide support to the interested users throughout the development of their courses.

Following the present announcement, all interested parties will be welcome to submit their proposals for developing lessons and lab courses using FORGE tools together with FIRE facilities. Proposals will be submitted in a single stage, by completing a very simple application form that has been prepared as described in Annex 1: Application form.

In order to be able to provide optimal support to the participants and facilitate the implementation of proposals, a cut off-date for submission of proposals is set after the announcement of the call.

First FORGE open call submission cut-off date: Friday, May 15, 2015

Depending on the interest expressed until the first submission cut-off date, the open call will be extended into consecutive phases of submission and implementation of proposals.

Type of participants: Educational/research institutions, universities, individuals, small/medium/large enterprises, anyone interested in bringing the worlds of FIRE and eLearning together.

Language in which the proposal must be submitted: English

Address for proposal submission: opencall@ict-forge.eu

An acknowledgement of receipt will be emailed to the email address of the person identified as responsible in the submitted proposal as soon as possible after the FORGE consortium receives the proposal.

Participants will be able to submit their proposals at any time after the official announcement of the call. However, proposals submitted after the first cut-off date (or any cut-off dates that will be set for the consecutive submission phases) will be taken into account for the next round of proposals submission and implementation.

The FORGE consortium will be available and will provide support to all interested parties for any discussion or clarification of any aspect of the call or their planned scenario of exploitation of the FORGE tools and processes throughout the duration of the call. This will cover guided training, both on administrative and technical issues, as well as technical assistance. Potential proposers are strongly encouraged to discuss their ideas with the FORGE consortium prior to the submission of their proposal.

Contact for information on the call: opencall@ict-forge.eu

3.3 Proposal selection

All proposals shall be eligible and may be accepted, provided that they foresee the use of FORGE tools and FIRE facilities within the implementation of the suggested courses. However, some additional criteria will be also taken into account for ranking the proposals into a priority list in terms of implementation and provided support. These criteria include the use of FIRE facilities, the reach of the course and its dissemination aspect, the feasibility and sustainability of the course, the interactive elements it comprises, as well as the foreseen provided support by the FORGE consortium. In addition, proposals that foresee the deployment of the proposed course in the context of a real-time course offered within the curriculum of the proposers' institutions will be given high priority. However, no scoring will be applied, since the process is not competitive and the open call is not funded.

Upon selection, the new users will be called to sign a lean Memorandum of Understanding for collaborating with FORGE and after agreeing to Terms and Conditions listed at the open call page can commence with their work. All participants will be informed via e-mail about the commencement date of their work and the signature of the MoU.

3.4 Implementation period

Duration of the implementation period: 4-5 months

Implementation phases:

The implementation of proposals comprises the following stages, in line with the methodology described in detail in deliverable D4.2.1 "Methodology and process for creating FIRE courseware", which will be made available to the participants after the submission of their proposals.

1/ Course design: within this stage, the participants will identify the target testbeds and resources, schedule deployment and reserve equipment on specific dates, when applicable. Moreover, they will identify any existing widgets and FIRE adapters that may be used for the implementation of their courses. In case it is required, participants will describe the specifications for the implementation of new widgets and/or FIRE adapters or adaptation of existing ones.

2/ Course development, namely the first trial of the course on the FORGEBox platform. Any developments on widget(s), FIRE adapters or lab course assistant recipes are also carried out in this stage.

3/ Course deployment: at this stage participants will deploy their courses to their learners. This means that the course is available, preferably in different means like FORGEBox.eu, ePub3 and eBook formats, and will be executed at least once, where applicable.

4/ Feedback to FORGE methodology/ evaluation of results: Participants will provide valuable feedback to FORGE regarding:

- the proposed FORGE methodology;
- the FORGEBox architectural solution;
- widgets and FIRE adapters;
- issues raised from forgebox.eu, widgets and FIRE adapters services;
- the evaluation results after circulating the FORGE evaluation forms to learners (where applicable).

Support to the participants:

The FORGE consortium will provide support to all participants and monitor the implementation of the lab courses. To that end, the consortium will provide the following to all interested parties participating to the open call for the development of their courses:

- **Online documentation and supporting material** (such as videos with instructions on how to use the FORGE tools and platform and other technical issues). This documentation will be available at the Open Call page of the project website (<http://ict-forge.eu/opencall/>) throughout the duration of the call and may be updated if necessary, according to the received inquiries.
- A permanent channel for submission of inquiries by **e-mail**, to the following address: opencall@ict-forge.eu.
- A **Frequently Asked Questions (FAQ)** section at the Open Call page of the project website (<http://ict-forge.eu/opencall/>), where the received inquiries and several clarifications will be published.

New users and contributors will be supported by the FORGE consortium. All cases will be carefully examined and the FORGE consortium will provide the required technical assistance to the best of its ability. Moreover, the FORGE consortium will provide regular updates and follow up the progress of the ongoing activities of external users and contributors.

After the courses are developed and executed (where applicable), the achievements and feedback collected through this call will be evaluated by the FORGE consortium and the main results will be adopted by the project's methodology and presented to the community as part of the project's dissemination strategy.

3.5 Terms and Conditions

Participants from successful proposals within this call will not receive EC funding and will not become official partners in the FORGE project. However, the call offers free access to the FORGE tools and processes and guaranteed training and support by the FORGE consortium covering guided training and technical assistance. Moreover, the participants will be acknowledged as associate partners and will receive wide recognition and high visibility through the project's website.

This call will implement a fast submission process based on a simple proposal template (see Annex 1: Application form). The administrative burden for proposers is limited.

By submitting a proposal, the participants confirm that, in case their proposal is successful, they have the necessary manpower and financial resources to execute the proposed work.

Each proposed course has to make use of the tools and/or processes developed within the FORGE project, which are described in detail at the FORGE website (see: <http://ict-forge.eu/>). The prototype courses that have been developed by the FORGE consortium are available as examples of lab courses. Participants from successful proposals within this call will commit that they will evaluate the results of their work and provide useful feedback to the FORGE consortium during their proposal's implementation and definitely before the end of June 2016. Participants are encouraged to deploy their proposed course in the context of a real-time course offered within the curriculum of their institution(s) and execute it at least once within the duration of the project.

The FORGE consortium will be available to all interested parties for any discussion or clarification of any aspect of the call or their planned scenario of exploitation of the FORGE tools and processes throughout the duration of the call. Potential proposers are strongly encouraged to discuss their ideas with the FORGE consortium prior to the submission of their proposal.

Detailed terms and conditions for collaboration between successful proposers and the FORGE consortium will be formalised through a Memorandum of Understanding (MoU), a template of which is available in Annex 2: Memorandum of Understanding (MoU).

By submitting a proposal, the successful proposers indicate that they agree with the terms and conditions that will be published at the open call page of the project website (<http://ict-forge.eu/opencall/>), as well as the terms and conditions as stipulated in the MoU for the use of the FORGE facilities.

Annex 1: Application form

Note: The application form has to be completed in Arial pt. 11 and single line spacing. The lay-out, font type, spacing or titles should not be modified. An indication of the maximum expected page length is given for each section in the proposal template. The Word version of the application form can be downloaded from the FORGE website (<http://www.ict-forge.eu>). The proposal must be submitted as a single file in PDF format.

Part A: Administrative Information

Your Proposal

Proposal Title:		
Date of preparation of your proposal:		

Contact Information

Name of responsible person:		
Email:		
Telephone number:		

Your Organization(s)

General information:

Organization 1, Name:		
Organization 1, Address:		
Organization 1, Type ³ :		
Organization 2, Name:		
Organization 2, Address:		
Organization 2, Type:		
Organization 3, Name:		
Organization 3, Address:		
Organization 3, Type:		

(Add lines as appropriate, if necessary)

Profile & expertise of proposers:

(1/2 page for each organization)

³ Non-Profit Organisation, Public Body, Research Organisation, Higher or Secondary education Establishment, SME, individual, etc.

Organization 1:**Organization 2:****Organization 3:**

(Add lines as appropriate, if necessary)

Part B: Description of Work**Course Description****Concept, motivation and objectives:**

(up to 1 page max.)

Please give a short description of the course's concept. What does the course aim to present to the students (e.g. networking basics, wireless LAN connectivity, flow control protocols, LTE, other)? What is the learning outcome of the course?

Explain the motivation for using the FORGE facilities. How can FORGE help you in the implementation and dissemination of your course?

Course specification:

(up to 2 pages max.)

Please give a more detailed description of the course's content. What is the course about? What is its proposed structure? What interactive elements do you foresee to include in the course? What is the duration of the course? What medium can be used to run the course (tablet, website, smartphone, learning management system etc.)?

What is the proposed duration for the development of the course? (Please note that your project should plan to start after beginning of May 2015 and finish no later than September 2016).

Use of FIRE / FORGE facilities:

(1/2 page max.)

(Optional – please contact us for any clarifications)

Why is the use of FIRE facilities necessary for the implementation of the course and to what extent? Which FIRE facility will be used and in which manner? Which widgets (FORGE deliverable D3.1, available at: <http://ict-forge.eu/wp-content/uploads/2015/02/FORGE-2014-P-D311-Final.pdf>) and FIRE adapters (FORGE deliverable D2.1, available at: <http://ict-forge.eu/wp-content/uploads/2015/02/FORGE-2014-P-D21-Final.pdf>) will be used? How are they tied together? Does this proposal involve development of new widgets and/ or FIRE adapters that can be integrated with the FORGE platform?

Please describe the technical specifications of the course (e.g. estimated volume of users, computing/storage requirements etc.). How many resources will be needed (e.g. number of nodes in an individual testbed)? What is the estimated workload imposed upon the FORGE infrastructure/components?

Please note that the support that will be provided to a successful proposal by the FORGE team will be based on the information included in this proposal. Please note that the support will be limited by the FORGE resources available and the amount of support required will be co-estimated as part of the implementation feasibility criterion during the prioritization of proposals.

Expected outcome and evaluation of impact**Outcome:**

(up to 1 page max)

How will the course create value to your organization or your community in general? What is your interest in creating and running the proposed course?

(Where applicable) How does the proposed course fit into your institutional strategy? Is the proposed course part of a course that is already running in your organization or is planned to be included in your organization's curriculum?

(Where applicable) Describe the measures you propose for the dissemination and/or exploitation of the proposed course. How many and what type of students are expected to be engaged? When will the proposed course be running (e.g. after its development, within the following semesters/ years, etc.)? Please provide a time plan, if possible. Are other institutions outside your organization expected to be using the material that will be developed within the proposed course?

Evaluation (optional): (optional)

Describe the KPIs you propose for evaluating achievement of the expected outcome.

Additional information (optional)

(up to 1 page max)

Provide any additional information about the proposed course.

Annex 2: Memorandum of Understanding (MoU)

FORGE Open Call

Memorandum of Understanding

Contributor's Details:

Full name of Contributor

(i.e. the legal entity⁴):

Registered Address⁵:

Company Number

(or equivalent)⁶:

1) BACKGROUND

This Memorandum of Understanding ("MoU") is entered into between the Contributor and the Open University and governs the Contributor's access to, and use of, certain services, facilities and other materials that may be made available to the Contributor from time to time in relation to the FORGE Project.

2) DEFINITIONS

For the purposes of this MoU, the following words shall have the following meanings:

"Contributor" Means the person or organisation identified above as the contributor.

"Open University" or "OU" Means the Open University, a body incorporated by Royal Charter (number RC 000391), an exempt Charity in England and Wales and a registered charity in Scotland (No. SC038302); and with its address at Walton Hall, Milton Keynes, MK7 6AA, Buckinghamshire, United Kingdom.

"FORGE" Means the project known as "Forging Online Education through

⁴ Note: If this MoU is being entered into by an individual in his/her personal capacity (i.e. not by an organisation), then the individual's full name should be included here.

⁵ Note: If this MoU is being entered into by an individual in his/her personal capacity (i.e. not by an organisation), then the individual's home address should be included here.

⁶ Note: This is not applicable if this MoU is being entered into by an individual in their personal capacity.

Project”	FIRE” or “FORGE”, being carried out by a number of consortium partners, including the Open University.
“Platform”	Means the FORGE facilities as a whole, including the project’s methodology and individual tools and courses developed by the project, which are described in detail at the FORGE website (see: http://ict-forge.eu/).
“Project Partner(s)”	Means any or all of the consortium participants who have contributed to the FORGE Project.
“Software”	Means the Software widgets made available from time to time by the OU at http://www.forgebox.eu/ or such other address as the OU may specify, together with any other software or software tools that might be made available to the Contributor by or on behalf the OU in connection with the FORGE Project.
“Support”	Means the Support Services as described in Clause (3) of this MoU.

3) ACCESS TO SUPPORT SERVICES, SUPPORT MATERIALS & SOFTWARE

- a) *Support Materials.* The OU will make reasonable efforts to provide the Contributor with access to certain support materials from time to time within a living online resource (<http://ict-forge.eu/opencall/>), including without limitation user guides, ‘how-to’ guides, FAQ’s and templates. It is expected that, if the Contributor has any problem or question, the Contributor will first refer to this on-line resource before contacting the OU with an email support query.
- b) *Support Services.* The OU will use reasonable efforts to operate an email support service through the following address: opencall@ict-forge.eu, whereby it will accept questions from Contributors and will refer those questions to the appropriate Project Partner for an answer or resolution. The OU will use reasonable efforts to ensure that any problem is resolved, and that resolution is achieved within a reasonable time-frame, but as this is an academic research project, the OU makes no warranty that any questions will be answered within any particular time frame, or that problems can or will be resolved at all.
- c) *Software and Platform.* The OU may, from time to time, make certain Software and/or the Platform available to the Contributor (for example through <http://www.forgestore.eu> for widgets or <http://www.forgebox.eu/staging/> for methodology guides etc.). The Contributor acknowledges that certain Software or Platform modules may be subject to additional licence terms and conditions (“Licence Terms”). In particular, such Licence Terms may include:
 - i) certain open-source licences and/or other third party licence terms; and
 - ii) other terms governing the use and operational requirements of the Software and Platform.

The OU will make any additional Licence Terms available to the Contributor prior to the Contributor using and/or installing relevant software modules and the Contributor hereby agrees to comply with any such additional Licence Terms, in addition to the provisions of this Agreement.

4) OWNERSHIP OF MATERIALS

- a) *IP Ownership.* Nothing in this MoU affects the ownership of any intellectual property. Accordingly:
- i) ownership of all software and materials provided or made available by the OU, or Project Partner to the Contributor will, as between the Parties, remain with the OU; and
 - ii) ownership of all software and materials generated by the Contributor will, as between the Parties, belong to the Contributor.
- b) *Acknowledgement.* The Contributor agrees that any software and/or materials that are generated using the materials, support services or software provided to the Contributor under this MoU will acknowledge that such software and/or materials have been “built using EU-funded FORGE technologies” as described in more detail at the webpage <http://ict-forge.eu/>.
- c) *Activities.* The Contributor shall not:
- i) perform any activity that results in the compromise of the security or integrity of any sites, networks connected to the Platform or individual FIRE facilities; and/or
 - ii) include in the proposed course any material containing insults, defamation, racial hatred, revisionism or unauthorised intellectual property, commercial activities or products

5) WARRANTIES & DISCLAIMERS

- a) The Contributor hereby acknowledges that all software, support materials, Support services and any other information, materials, services or advice that may be made available from time to time by the OU in connection with the Project (together, the “Services and Materials”) are all provided free of charge and that, accordingly, the Contributor agrees that all such Services and Materials are provided “as is” and that the OU does not make any representation or give any warranty that any of the Services and Materials will be fit for purpose, free from defects, or that the content or use of any such Services and Materials will not constitute or result in any infringement of third-party rights.
- b) The express undertakings and warranties given by the Parties in this MoU are in lieu of all other warranties, conditions, terms, undertakings and obligations, whether express or implied by statute, common law, custom, trade usage, course of dealing or in any other way. All of these are excluded to the fullest extent permitted by law.

6) LIABILITY

- a) The OU’s liability under or in connection with this MoU, whether arising in contract, tort (including negligence), breach of statutory duty or arising in any other way:
- i) will not exceed in aggregate, the sum of five thousand pounds sterling (£5,000 GBP); and
 - ii) will not extend to (1) any indirect damages or losses; or (2) to any loss of profits, loss of revenue, loss of data, loss of contracts or opportunity, whether direct or indirect.

- b) Notwithstanding anything other provision in this MoU, nothing in this MoU limits or excludes a Party's liability for:
- i) death or personal injury caused by negligence; or
 - ii) any fraud or for any sort of liability that, by law, cannot be limited or excluded.

7) GENERAL

- a) This MoU shall commence on the date of signature by both parties and shall continue in force until [insert date].
- b) This MoU is governed by, and is to be construed in accordance with, English law. The English Courts will have exclusive jurisdiction to deal with any dispute which has arisen or may arise out of, or in connection with, this MoU, except that either party may bring proceedings for an injunction in any jurisdiction.
- c) This MoU constitutes the entire agreement between the parties relating to its subject matter. Each party acknowledges that it has not entered into this MoU on the basis of any warranty, representation, statement, agreement or undertaking except those expressly set out in this Agreement.

AGREED

For and on behalf of
The Open University

By / For and on behalf of
The Contributor

Signature

Signature

Print Name

Print Name

Title

Title

Date

Date
