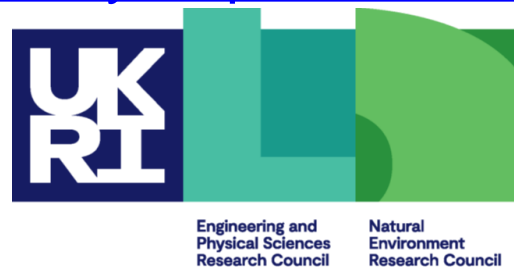


HPC Education and Training at EPCC

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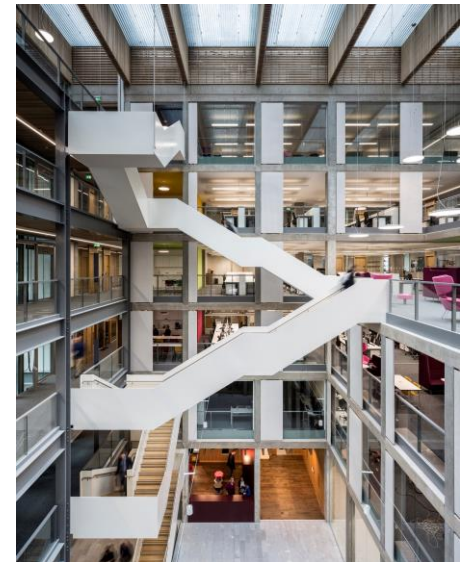
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EPCC

- Founded in 1990 as Edinburgh Parallel Computing Centre
 - Centre of Excellence in The University of Edinburgh, Scotland, UK
 - self-funded with over 100 full-time staff
 - relocated to the Bayes Centre in 2018

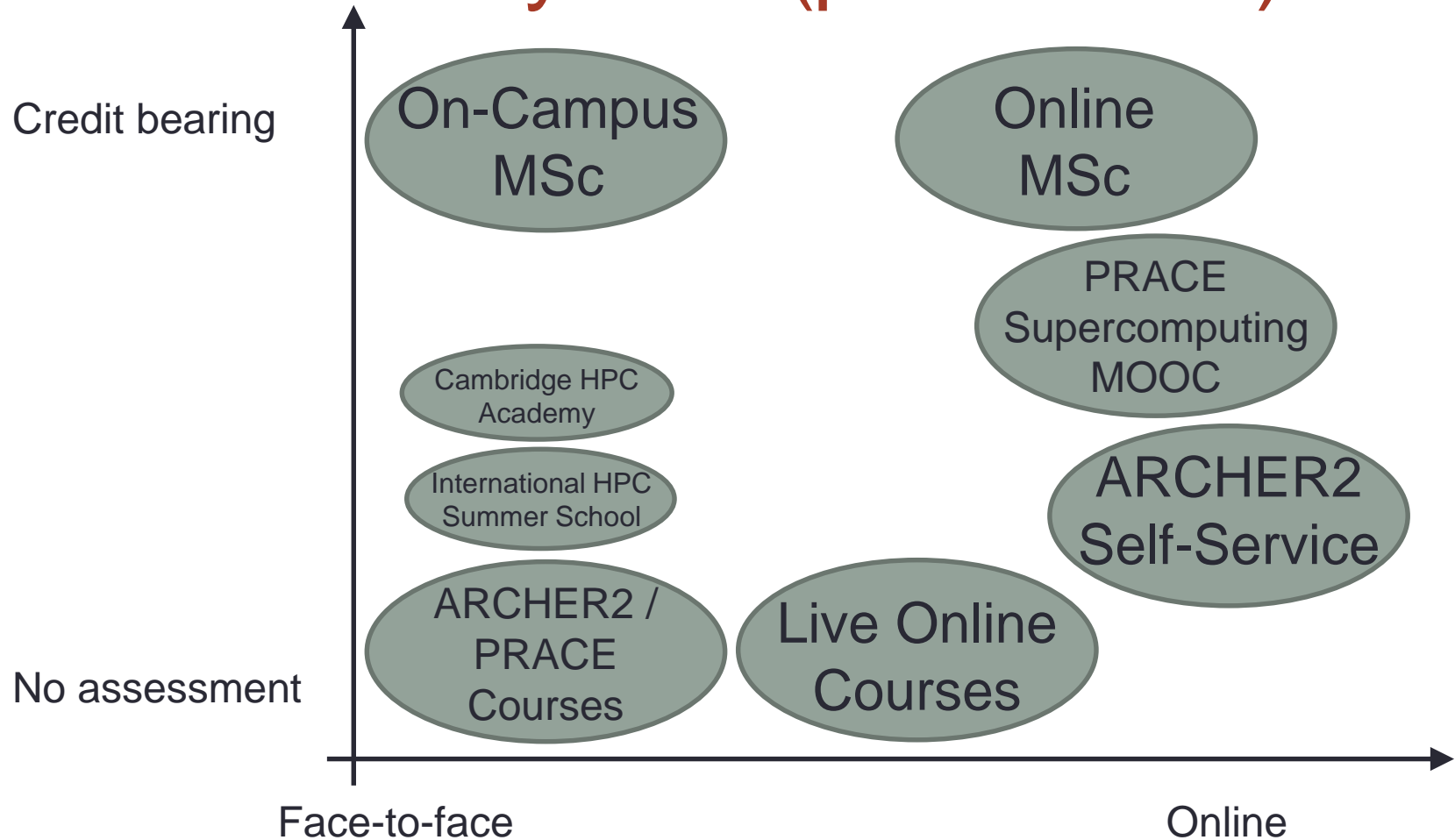


Activities

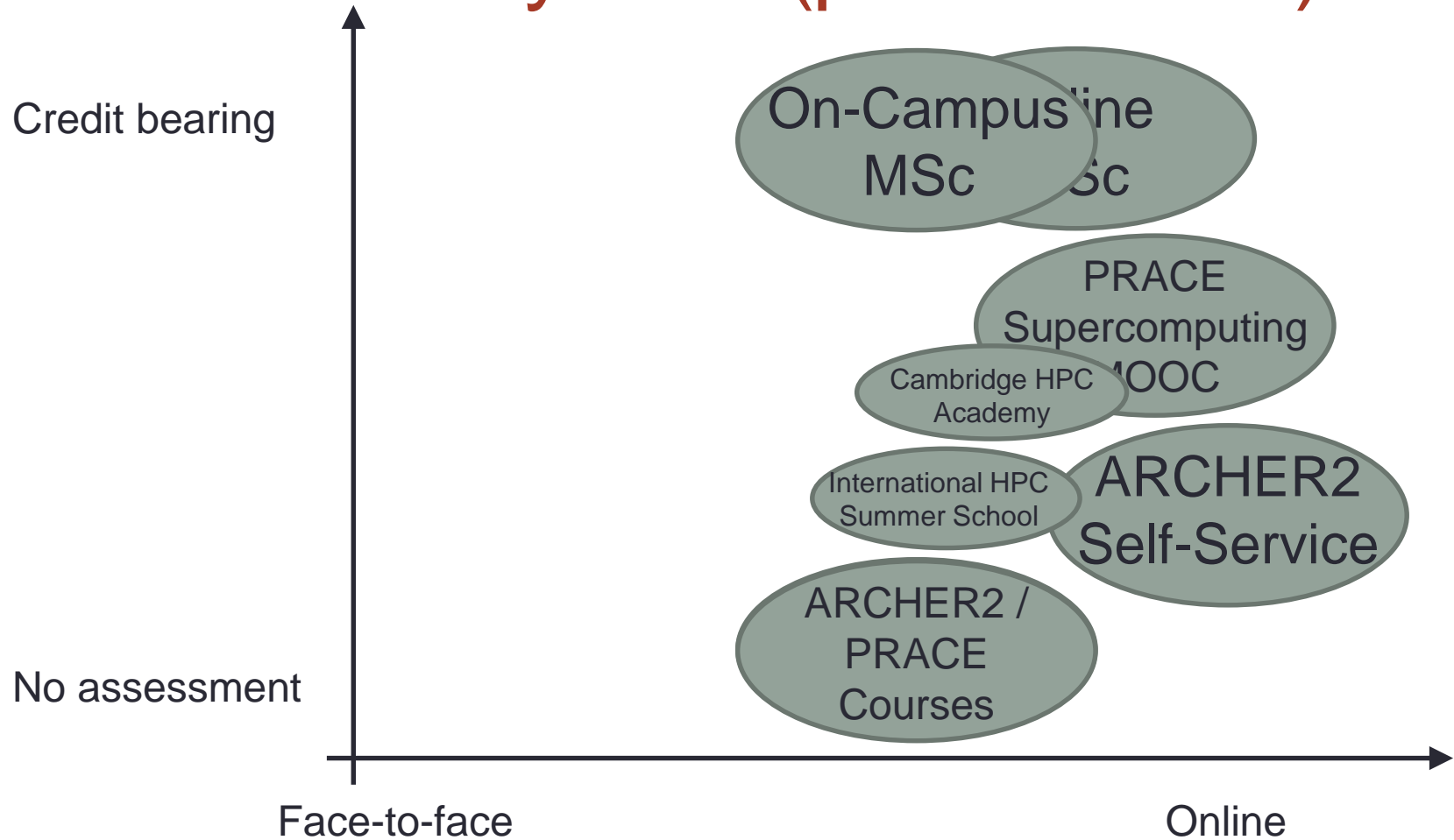
- Projects in HPC, Data Science & Software Development
 - supporting UK academic research
 - European funding
 - industrial partners
- National Supercomputing services
 - ARCHER2 and Cirrus
- Education and Training
 - Postgraduate Masters Programmes in HPC
 - training courses



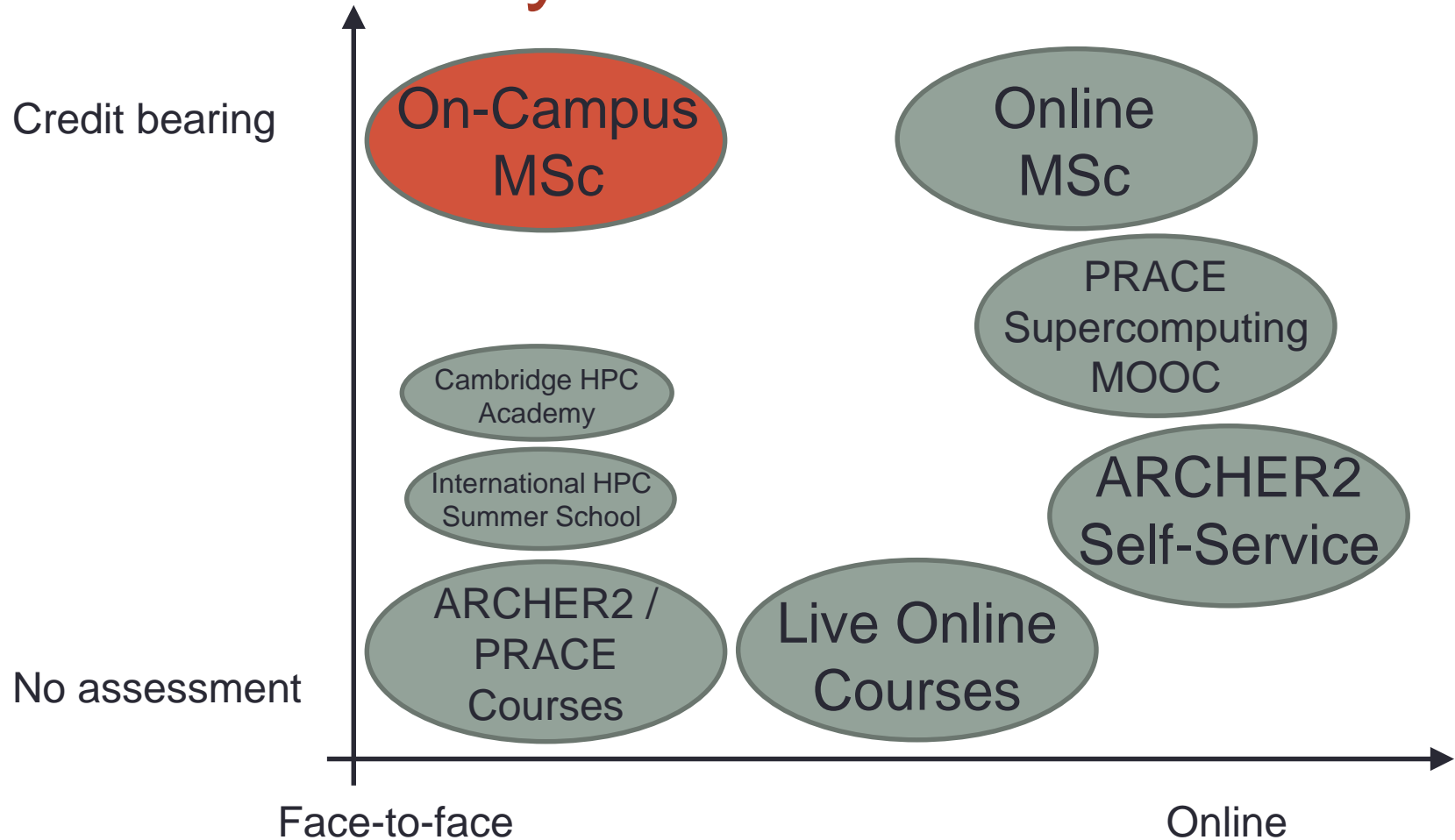
EPCC Ecosystem (pre-COVID)



EPCC Ecosystem (post-COVID)



EPCC Ecosystem

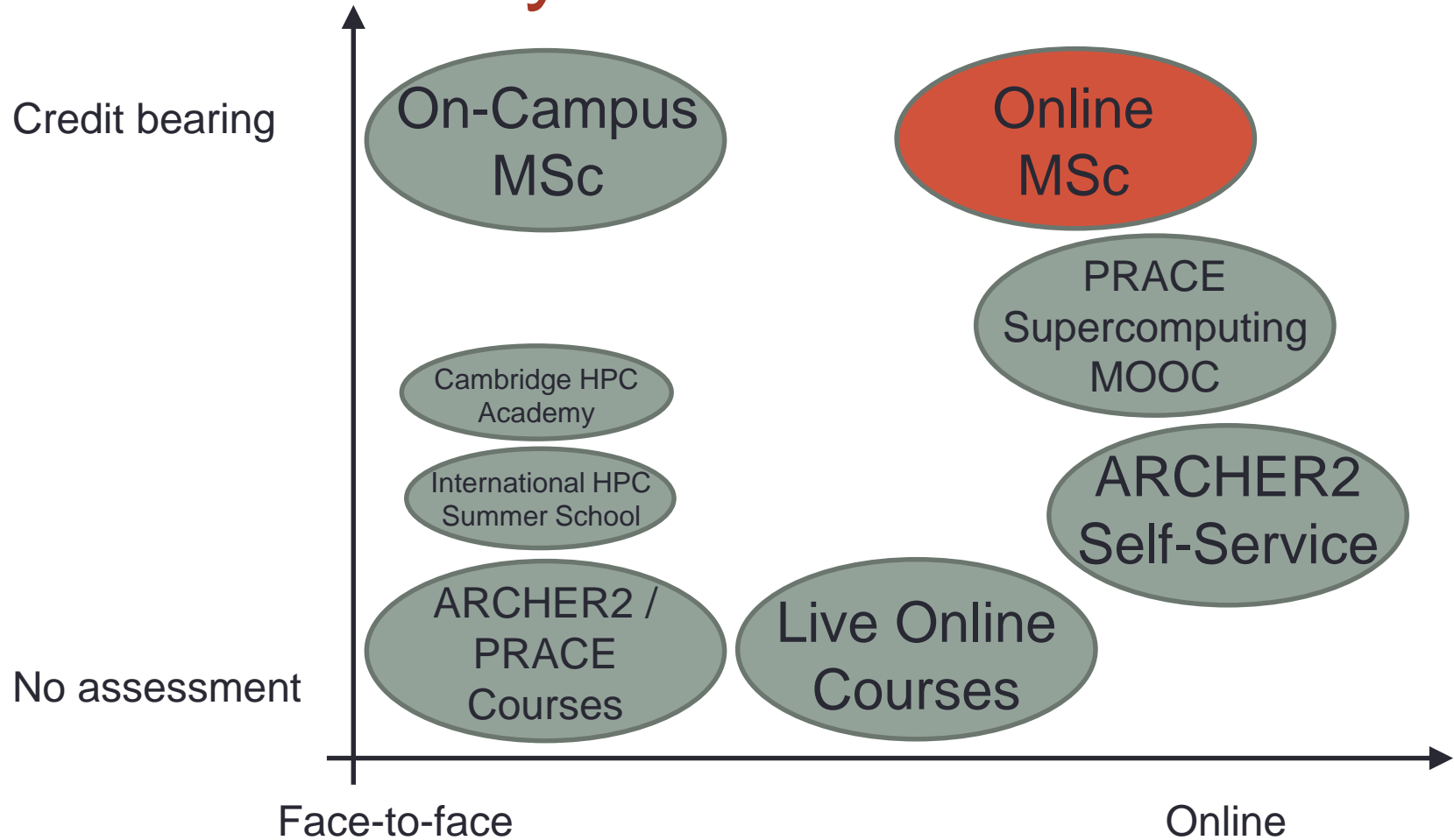


MSc in HPC / HPC with Data Science

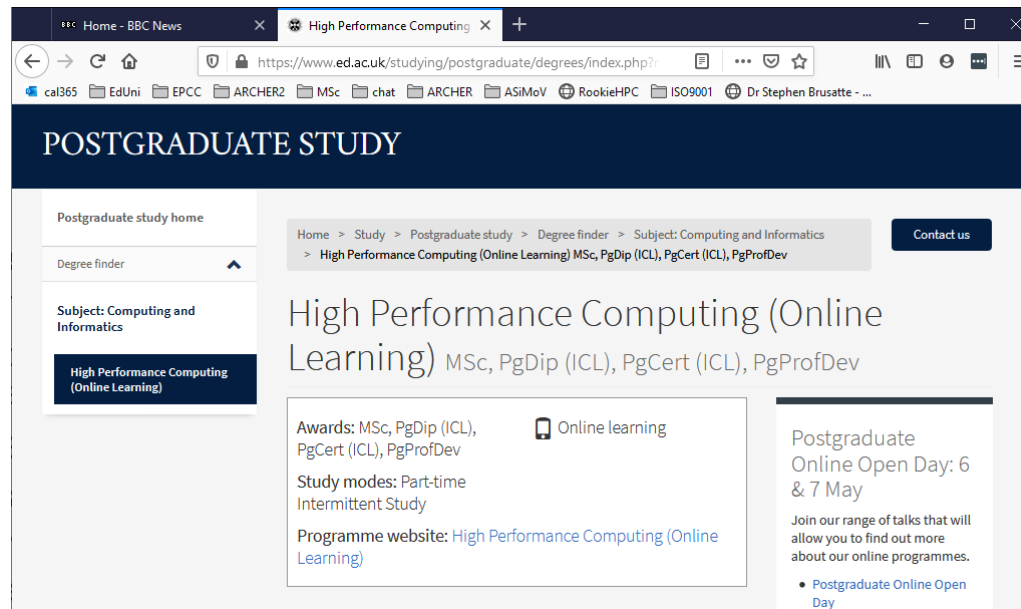
- Classical UK format residential taught Masters programme
 - running since 2001
 - 12 months with fees
 - around 50 students per year
 - lectures + lab sessions
- Students use Learn VLE
 - PDFs of lectures
 - all practical material
 - coursework submission
 - recordings of all lectures
- Blackboard Collaborate for webinars
 - live online delivery during COVID-19



EPCC Ecosystem

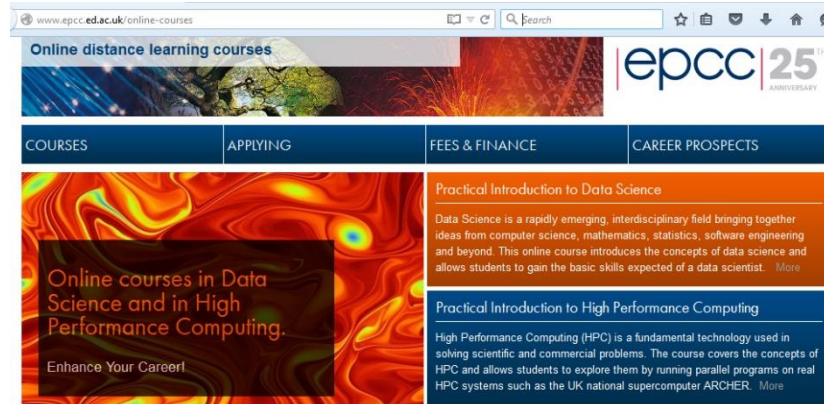


Online Masters: MSc in HPC



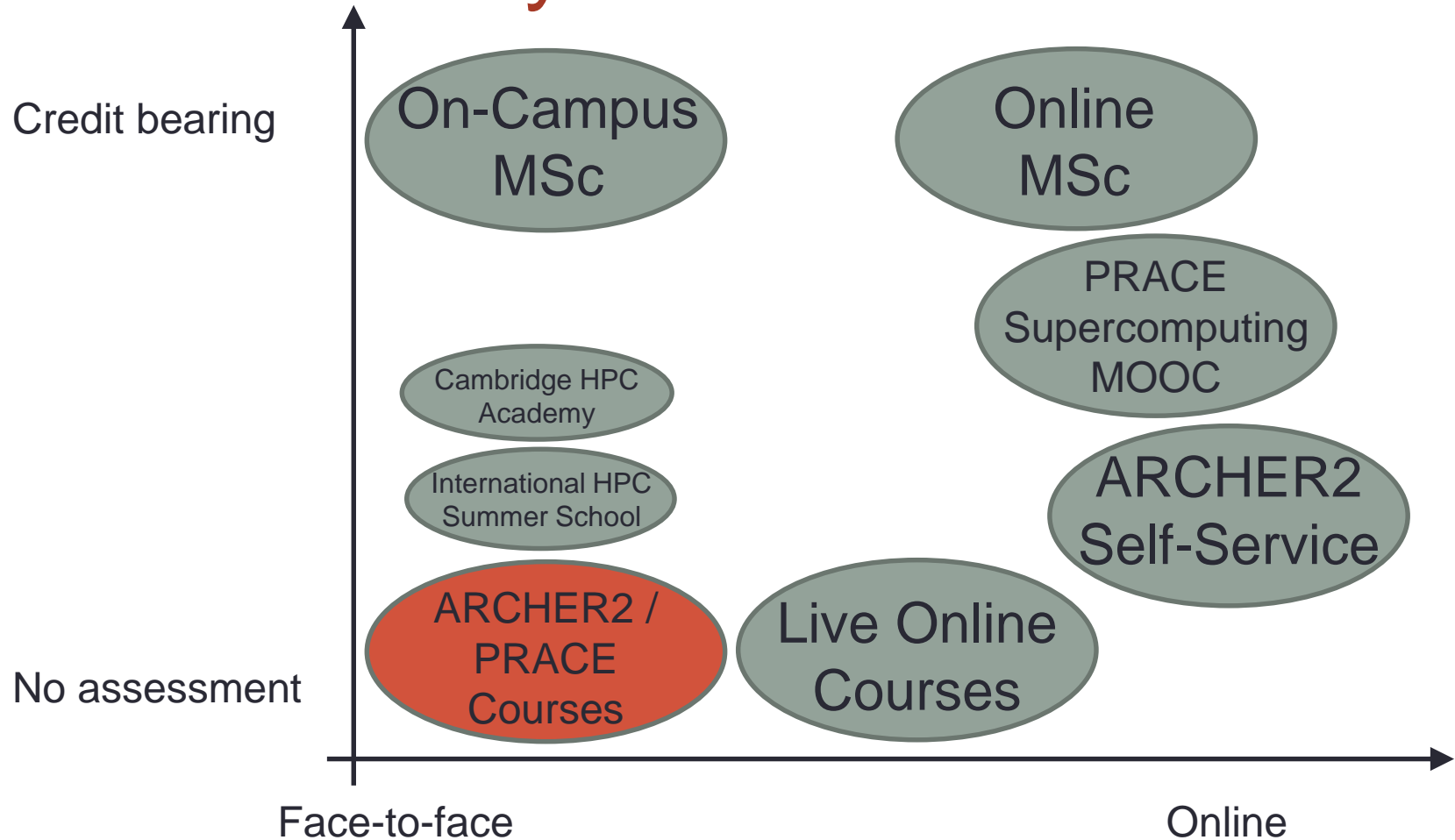
- Launched both HPC programmes online in 2020
 - building on experiences of existing online HPC courses under DSTI
 - online material, pre-recorded lectures + live online tutorials
 - currently around 25 students but growing rapidly

Online Masters: DSTI



- Offer many of our courses under Data Science Technology and Innovation (DSTI) MSc programme since 2016
 - e.g. Practical Introduction to HPC; Practical Introduction to Data Science; Threaded Programming with OpenMP; Message-Passing Programming with MPI
- Entirely online via Learn with recorded lectures
 - fees charged; around 150 students

EPCC Ecosystem

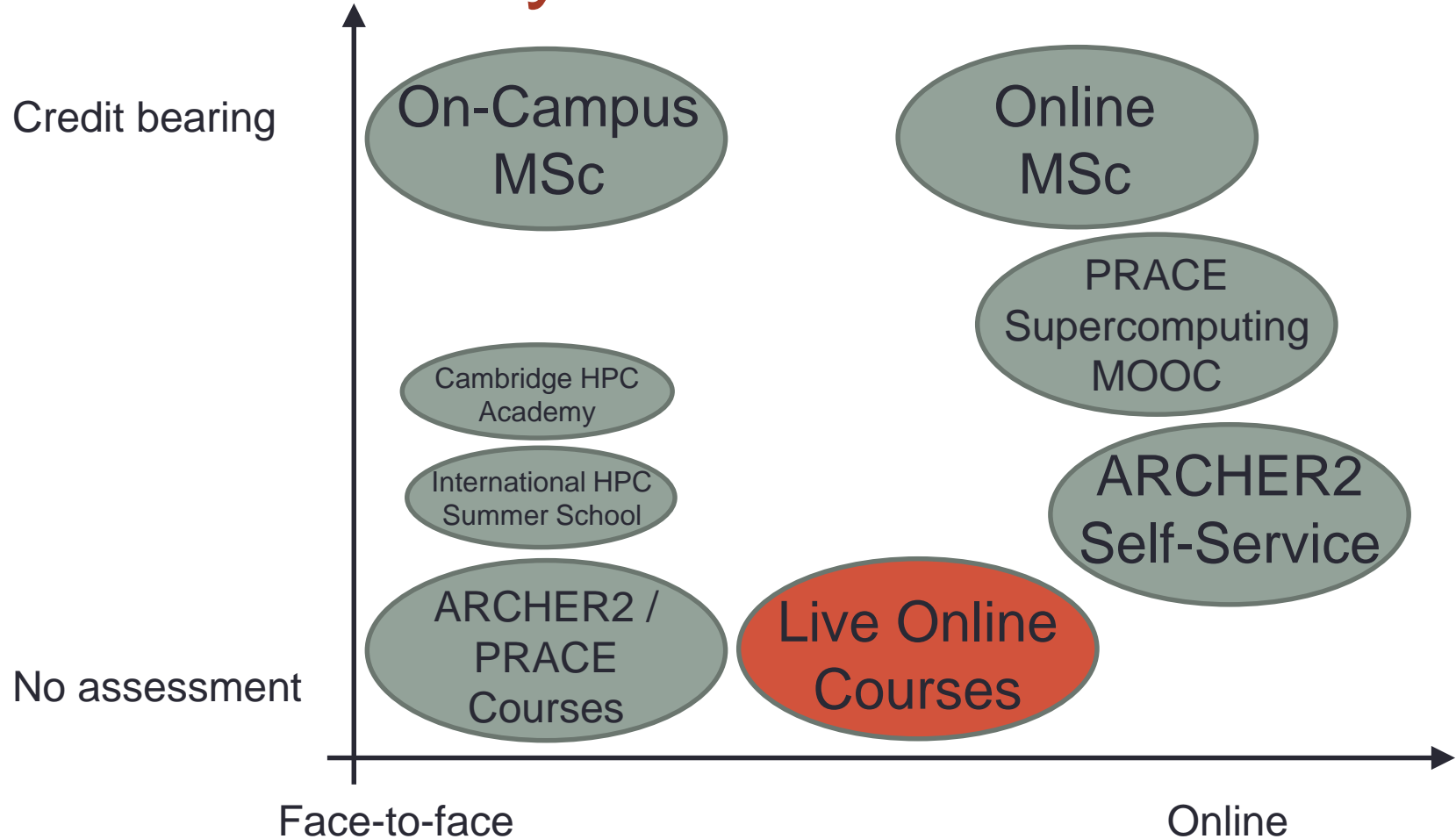


ARCHER2 / PRACE Courses

- Around 25 face-to-face courses per year
 - typically 2 – 3 days full time
 - attendance ~25 users
 - material online and archived
 - free to academics
 - no assessment except certificate of attendance!
- Fully online from March 2020 after COVID
 - starting to teach face-to-face again

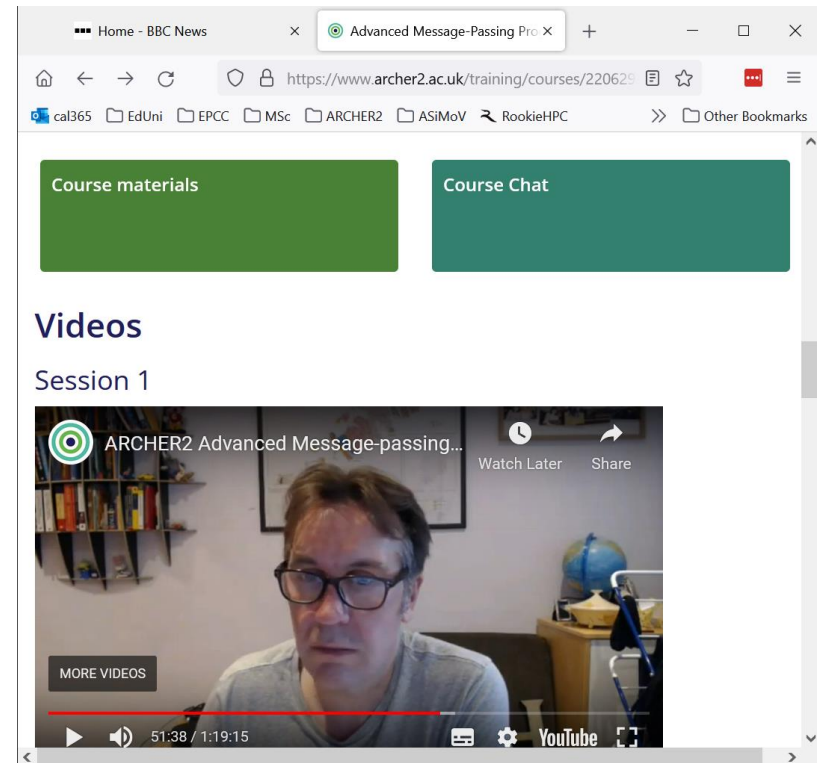


EPCC Ecosystem

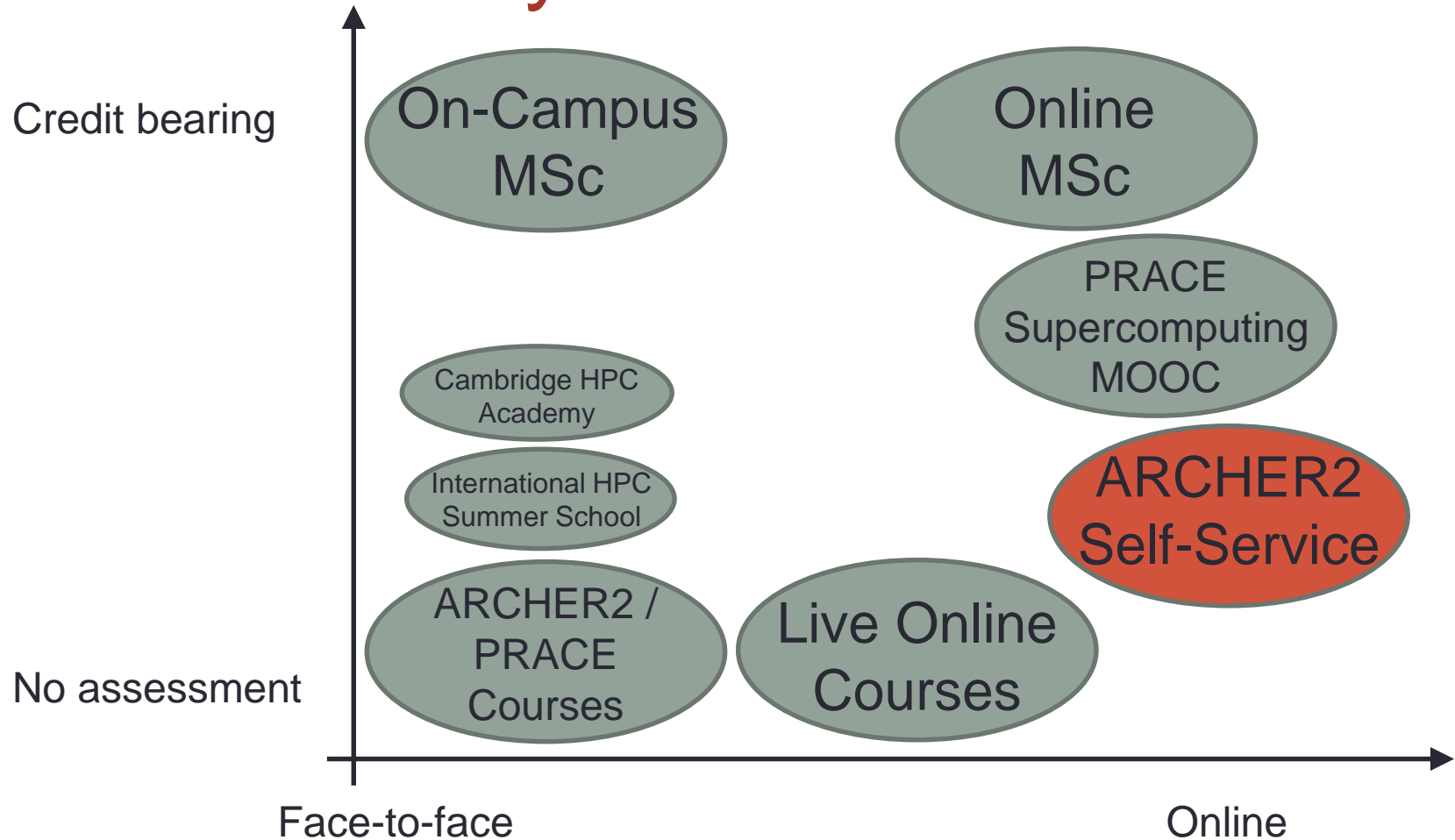


ARCHER2 / PRACE during COVID

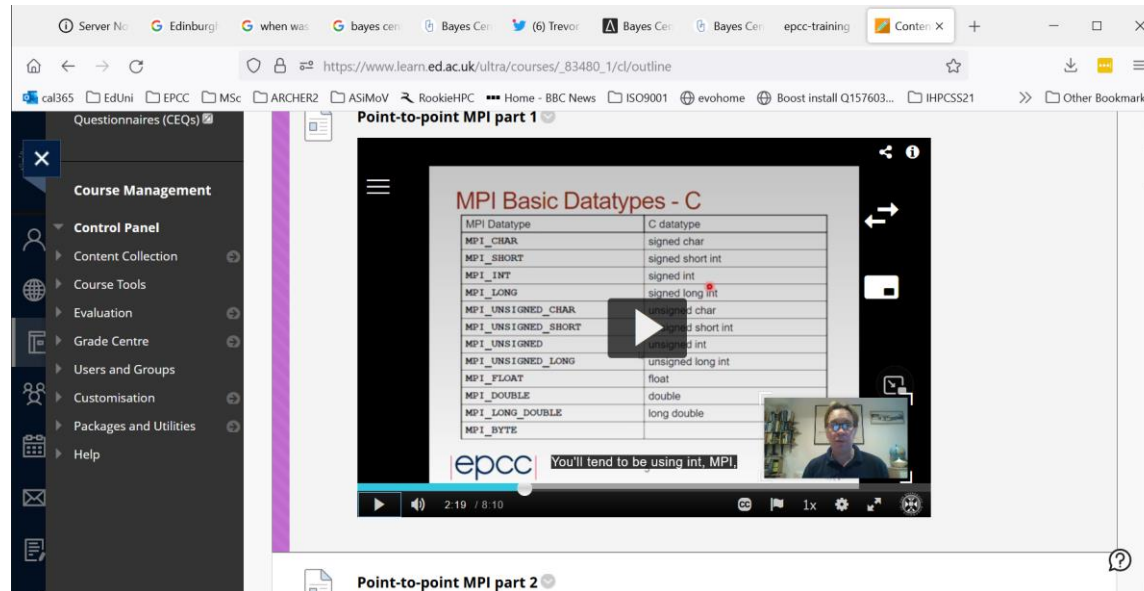
- Fully online from March 2020
 - delivered 60 days per year as required
- Experimented with format
 - consecutive days
 - full days with gaps
 - consecutive mornings / afternoons
- Attendance increased
 - less interactive / less engagement



EPCC Ecosystem

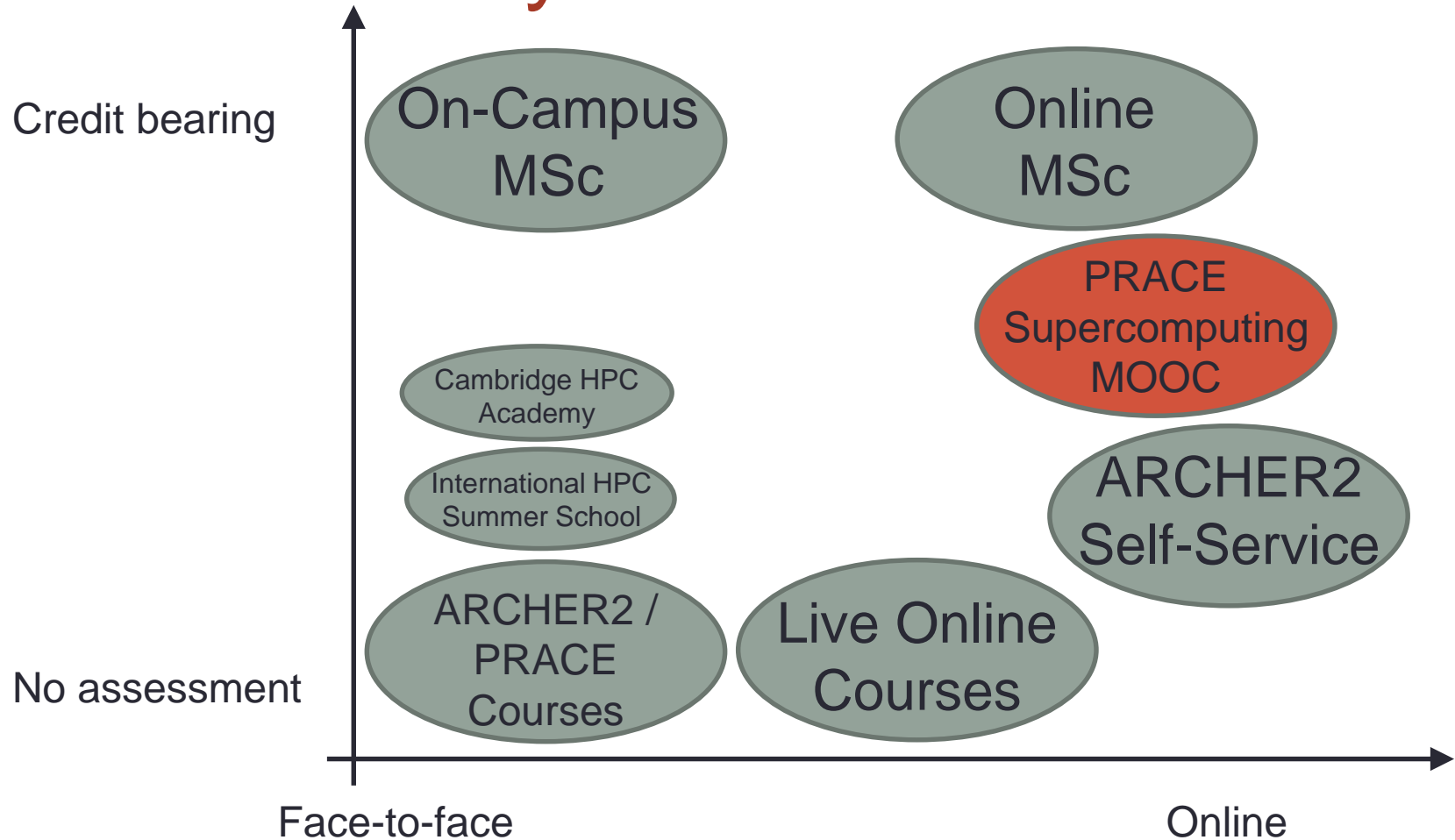


ARCHER 2 self-service courses



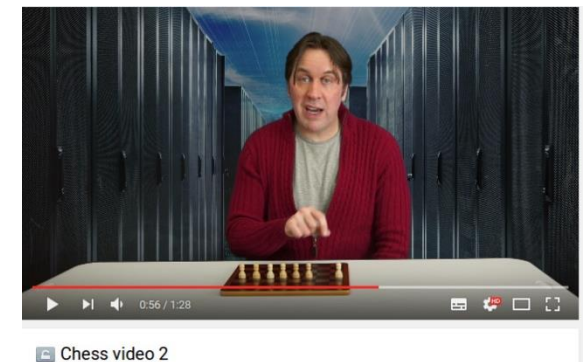
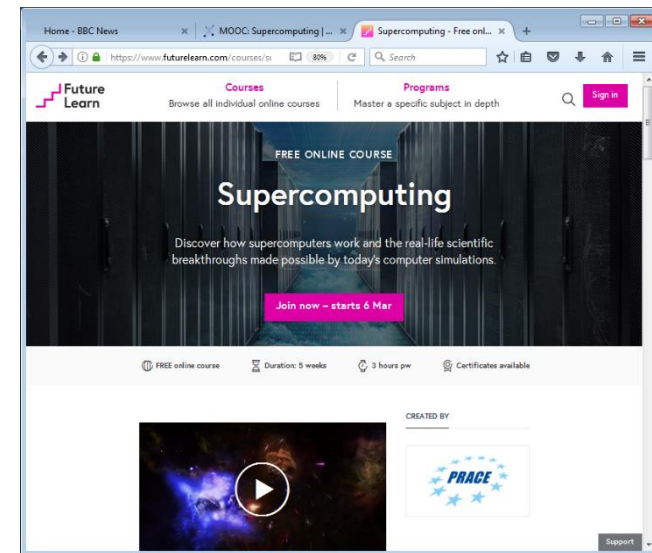
- Based on our online MSc courses
 - free to users of the national HPC systems
 - online material, pre-recorded lectures, practical exercises
 - offer a certificate of completion
 - currently MPI, OpenMP, CP2K+GROMACS

EPCC Ecosystem



futurelearn.com/courses/supercomputing/

- Free introductory course
 - videos, articles, quizzes, discussion boards etc.
 - certificate upon completion of multiple choice test (+fee!)
 - largely conceptual
 - tutors contribute to discussions
 - “ask an expert” sessions
- Five runs: Feb 2017, Aug 2017, Jan 2018, Sep 2018, Oct 2019
 - approx joiners: 3000, 3000, 1500, 1000, 600
 - approx completion: around 10%
 - now runs “unfacilitated” – over 2700 joiners



EuroCC work

- Interested in “accessible” training
 - online using more modern web technologies
 - based on “code refinery” template developed by Swedish NCC
 - uses github and github pages; similar to Software Carpentries model
- Develop new self-service course
 - Hands-on Introduction to HPC
 - shorter and less theoretical than equivalent MSc course
 - more background and explanation than HPC Carpentry
 - Aimed to be portable to different systems
 - three or four key practical exercises need to be reconfigured
 - simple configuration options in the template