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**Learning and Teaching Committee**

**Subject: HEFCE Capital Fund for Learning and Teaching, 2011/12**

**Origin: Pro Vice-Chancellor (Teaching)**

**Executive Summary:** The University has received £632,297 from HEFCE for Capital Funding to support learning and teaching. Bids have been received from Teaching Support (Facilities Management), the School of Aeronautical, Automotive, Chemical and Materials Engineering, the School of Social, Political and Geographical Sciences, and the School of Sport, Health and Exercise Sciences.

**Learning and Teaching Committee Action Required:** The Committee is asked to consider the bids detailed below and to make recommendations to Operations Committee.

## School of AACME

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| **Department** | **Description** | **Bid ex VAT** | **Bid inc VAT** |
| AAE | Create Closed Section for Jet Wind Tunnel  | £2,917 | £3,500 |
| AAE | Structural vibration and acoustics Lab | £3,120 | £3,744 |
|   | **AAE Total** | **£6.037** | **£7,244** |
| Chemical Engineering | Construction of an additional Control Experiment. | £3,333 | £4,000 |
| Chemical Engineering | Laboratory Computers | £4,930 | £5,916 |
|   | **Chemical Engineering Total** | **£8,263** | **£9,916** |
| Materials | 20 stackable chairs for LMCC | £1,000 | £1,200 |
| Materials | Student Lockers | £1,250 | £1,500 |
|   | **Materials Total** | **£2,250** | **£2,700** |
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|  | **School Total** | **£16,550** | **£19,860** |

**Facilities Management – Pool Teaching Room Development Proposal**

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| **Department** | **Description** |  | **Total cost of Project** |
|  | **Student Learning Area - Brockington Extension** |  |  |
|  |  Structural changes to learning space | 250,000 |  |
|  | Equipment | 22,220 | 272,220 |
|  | i-Desk Provision |  | 27,960 |
|  | **Minimum Standard of AV** |  |  |
|  |  Installation of IT equipment in p/g room | 90,000 |  |
|  |  Upgrade to IT in T003 | 46,000 |  |
|  |  Replacement of Radio Microphones | 25,800 | 179,800 |
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|  | **School Total** |  | **479,980** |

**School of Social, Political and Geographical Sciences**

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| **Department** | **Description** |  | **Total cost of Project** |
| Social Sciences | UG Student area within Social Sciences |  | 18,562 |
| PHIR | Completion of UG student area | 2,250 |  |
|  | Postgraduate Social Space | 4,462 |  |
|  | Replacement of blinds in teaching rooms | 3,000 |  |
|  | **Total PHIR** |  | 9,712 |
|  | **School Total** |  | **28,274** |

**School of SSEHS**

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| **Department** | **Description** |  | **Total cost of Project** |
|  | Upgrade display screen in Sir John Beckwith Centre |  | 1,620 |
|  | Replacing coursework boxes |  | 1,000  |
|  | Furniture for social area for students |  | 1,000 |
|  | **School Total** |  | **3,620** |

**School of AACME**

**Department: AAE**

**Proposal 1: Create Closed Section for Jet Wind Tunnel**

The open jet wind tunnel in AAE is used extensively for student laboratories and final year projects for both the Aeronautical and Automotive Engineering courses. The tunnel is also used by students from other engineering departments for project work. By modern standards the tunnel produces excessive noise and students have to wear ear protection when using the tunnel. This makes communication almost impossible whilst the wind tunnel is running, and significantly reduces the effectiveness of laboratory sessions. In addition, the wind tunnel is sited in a laboratory shared with Materials Engineering, and to avoid the noise interfering with their teaching, the times at which the wind tunnel can be run is restricted.

A project supported by CETL in 2009 showed that modifying the wind tunnel to a closed working section will significantly reduce the noise. A second CETL supported project in 2010 produced a fully costed design for the closed working section. The intention is to produce and install the closed working section through a combination of AAE technician effort and manufacture by local companies. The end result will be a wind tunnel that can be used effectively for teaching with minimal impact on other teaching activities going on close by.

AAE will cover the cost of technician time, but support is requested to cover the purchase of materials and the costs of outside manufacture.

This bid is for the cost of materials and outside manufacture **£3,500** inc VAT

Prepared by Peter Render, October 2011.

**Proposal 2: Structural Vibration and Acoustics Laboratory.**

The noise and vibration laboratory comprises the reverberation chamber and the anechoic chamber as two separate rooms, designed to produce full sound reflection from the walls and zero reflection, respectively. The reverberation chamber cannot be used for this purpose unless all equipment is removed; therefore, it is now used as general laboratory space.

The reverberation chamber is used to demonstrate experimental vibration measurement principles to undergraduates as part of laboratory sessions and for general experimental work-space relating to final year projects. The anechoic chamber is used for sound measurements by undergraduate students. The Laboratory is also an excellent promotional tool during open days.

The laboratory has become out-dated and needs refurbishment to enhance the experience of current students and to best demonstrate our equipment to potential students.

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| ***Problem with laboratory*** | ***Action proposed*** | ***Cost*** | ***VAT @20%*** |
| Chairs are old, dirty and uncomfortable for students. | New simple office desk chair (x4). £128.00 | £512.00 | £102.40 |
| Two wooden workbenches are old, visually unattractive and dirty. | Replace with modern benches, sturdy with metal frame and laboratory work-surface.£600.00 | £1200.00 | £240.00 |
| Walls are bare. | New A1 size poster boards for showcasing student research. £300.00 | £900.00 | £180.00 |
| Lack of undergraduate project shelf during term time. | New shelf unit. | £128.00 | £25.60 |
| No proper computer chair for the computer running the analyser. | New office chair. | £150.00 | £30.00 |
| No proper desk for the computer running the analyser. | Sturdy computer desk. | £100.00 | £20.00 |
| Lack of ear protection for students during experiments. | New ear protectors. Foam individual disposable units. | £70.00 | £14.00 |
| Internet not available unless long ethernet wires run across laboratory. | Purchase of wi-fi router for the laboratory. Two USB dongles for desktop computers. £30.00 | £60.00 | £12.00 |
| **Sub-total** |  | **£3120.00** | **£624.00** |
| **Total** |  | **£3,744.00** |

This bid is for equipment to enhance the Structural Vibration and Acoustics Laboratory: **£3,744 inc VAT.** Prepared by Dan O’Boy, 11th October 2011.

**Department: Chemical Engineering**

**Proposal 1: Construction of an additional Control Experiment.**

As part of its continual commitment to teaching excellence, the department of Chemical Engineering runs first and second year undergraduate teaching laboratories throughout the academic year.

Part B (second year) experiments are particularly varied, covering topics as diverse as Particle Technology, Food Technology, Mass Transfer and Control.

Students typically work in pairs to encourage active engagement, collaborative learning and collective responsibility. With a large intake of students in both 2010 and 2011 and a limited number of experimental devices, some experiments have to be run with three or four students each instead of two. Without doubt, this decreases the learning for individual students. It is particularly a problem in second year ‘Control’.

The experiment ‘rigs’ are designed to be larger than the traditional School experiment but not quite on an industrial scale. The cost of buying such experiments ‘off the shelf’ can be prohibitive. The last ‘Control’ experiment was commissioned and built in house as part of the department’s contribution to the University’s Centenary celebrations in 2010. Not only was the rig a triumph with the public but has proved to be an exciting addition to the collection of older experiments.

Having recently built this experiment, we know how to overcome the technical ‘teething’ problems encountered and can also say with confidence that the equipment can be delivered for a budget of £4,000.

This bid is for equipment to build a new Control Experiment Rig: **£4,000 inc VAT**

Prepared by Sean Creedon, October 2011

**Proposal 2: Laboratory Computers**

IT facilities within the department are outdated and are being upgraded over a period of time. Specifically, there is a need for 10 new computers for use within teaching laboratories to enhance the student taught experience and allow more effective processing of experimental data and results.

This bid is for 10 computers (HP 8200MT) at £493+vat each = **£5,916 inc VAT**

Prepared by Paul Izzard, October 2011

**Department: Materials**

**Proposal 1: Stackable Chairs for the LMCC**

In the Loughborough Materials Characterisation Centre (LMCC), there is a need for 20 stackable chairs which could be deployed in the rooms during laboratory classes for undergraduate and postgraduate taught students. For example, a room with an electron microscope will typically only contain 2 chairs, for the operator and one other, yet these rooms are frequently used for small groups of say 4-5 people for a 2-3 hour lab class. There is not sufficient room to keep large quantities of furniture in these individual rooms, yet some compact, stackable chairs would greatly improve the experience of the students.

Bid for 20 stackable Chairs: **£1,200 inc VAT**

**Proposal 2: Lockers for Student Equipment**

The Department Teaching Coordinator has suggested a bank of lockers to be provided in the basement processing area. This is frequently used for teaching and when students enter, they typically leave their bags in the vicinity of the entrance, posing a safety risk.

Recently the department installed banks of lockers in the 3rd floor main undergraduate laboratory allowing students to leave their bags in a ‘swimming pool’ type locker (returnable £1 coin) at the entrance to the lab which has been extremely successful, improving both safety and security, and instilling good laboratory discipline into the students.

This bid is to put similar lockers into the basement Process Lab. Estimated cost **£1,500 inc VAT.**

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**Facilities Management**

**Context**

There are 94 centrally bookable pool teaching rooms and IT labs and 30,352 hours of teaching allocated this semester. The rooms are managed with an annual maintenance budget of 100k which supports a basic AV system, but does not allow for significant improvements. In addition there are 2 FM managed student study spaces.

There has been a recent investment through the capital programme to create and/or refurbish teaching space in EHB, James France and Loughborough Design School, however there are areas which require additional funding. The primary objectives for the capital funding are to:

* Create a collaborative and socially interactive learning space associated with the proposed refurbishment of the teaching and learning facilities in Brockington.
* Improve the AV infrastructure to a defined technology-rich AV standard.
	1. **Student Learning Area – Brockington Extension**

Space Allocation-Sub Committee has approved in principle a proposal to create a teaching and learning centre in Brockington Extension and the Deputy Vice Chancellor has requested that some of the HEFCE funding be made available to support the project. A stage 1 paper is currently being produced.

The space will focus teaching and learning activities in a centralised area and closely located to James France. It will address DDA access issues to the building, provide an opportunity upgrade existing facilities and improve the teaching and learning space to support the ‘student experience’.

(i) The creation of the collaborative and socially interactive learning space will require structural changes to the building and foyer area.

Proposed timescales: Summer 2012, subject to Ops approval

Total cost of project : Estimated £750,000

Funding contribution: £250,000

1. The collaborative and social learning space located in the foyer area will require 4 individual work zones with a 42” LED, desk, containment and 5 chairs. Cost per unit is £5325 with containment for network and power approximately £230 per unit.

 

Proposed timescales: Summer 2012

Maintenance and support: within existing resources

Total cost of project: £22,220 (ex vat)

**1.2 i-Desk Provision**

The concept of ‘express stations’ in building foyers allow students quick internet access between lectures for e-mail, LEARN and increasingly Facebook, which is becoming a valuable tool in student module discussions. They are intended to enhance the student experience.



*“This is a brilliant idea. I really like the ‘express stations’ as students are prone to needing to check their emails or timetable when they are on the move. I also believe that new innovative technologies like these are essential during the higher education changes”*

Jayde Savage, Vice President (Education)

The proposal will locate i-desks in high frequency areas to maximise usage including; 3 in Sir David Davies foyer, 2 in ‘S’ foyer, 3 in Brockington and 4 in James France. IT Services have assessed the product and requested a 2 year extended warranty in line with policy. The cost per unit is £2100 and includes PC, keyboard, LCD screen, poles, PC housing with glass top and LED lighting. Installation costs for network and power is approximately £230 per unit.

Proposed timescales: 17th March - 14th April 2012 (Brockington: Summer 2012)

Maintenance and support: approx £200 per PC and funded within existing resources

Total cost of project: £27,960 (ex vat)

**1.3 Minimum Standard of AV**

Due to budgetary constraints there are a number of rooms which don’t contain a fixed AV installation or the AV system requires a complete upgrade.

1. There are 5 postgraduate rooms in Stewart Mason Building. The requirement is for a lectern/cabinet, PC, data projector, visualiser and interactive touch screen. The cost per room including installation and maintenance is £18,000.

Proposed timescales:17th March – 14th April 2012

Maintenance and support: within existing resources

Total cost of project: £90,000 (ex vat)

1. T003 in the Wolfson School is the second largest lecture theatre on campus with a current booked frequency of 89%. The room is used for undergraduate and postgraduate teaching, open days, inaugural and public lectures. There is a requirement to upgrade the AV with full HD dual projection facilities, an integrated control system, replace the lectern, visualiser, PC, audio systems and cabling.

Proposed timescales: Summer 2012

Maintenance and support: within existing resources

Total cost of project: £46,000 (ex vat)

1. Radio Microphones are used in all pool teaching space over 100 capacity and required for use with lecture capture appliances. The existing licence free channels used for microphones has been sold by the government, with a proposed cut off date of Autumn 2012. This will render the existing microphones and receivers redundant. Funding will be required to replace the existing stock.

Proposed timescales: January 2012

Maintenance and support: within existing resources

Total cost of project: £25,800 (ex vat)

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**School of Social Political and Geographical Sciences**

The **School of Social, Political and Geographical Sciences** would like to request funding from the HEFCE Capital Spend for Teaching fund for the following projects (ranked in order of importance):

**1)** **UG student area within Social Sciences**

As the School has now been advised that co-location will not be possible for the foreseeable future, there is an immediate requirement for quality student areas within the Department of Social Sciences, which would have been addressed by co-location.

Dedicated student areas are currently very limited and there is inadequate social and study space for UG students. A large room has been identified on the third floor of Brockington Extension which could be converted into a flexible, light and inviting student area to enhance the learning experience. The room is suitably located near to academics and administrators within the Department and we propose it is updated and transformed into three distinct but connected spaces:

1. An area for large-group work and presentations

2. An informal seating area

3. A small-group work area

The area already houses a data projector and retractable screen but we would also like to provide a flat-screen TV to give information and multi-media presentations to students.

This would provide an excellent work and meeting space for UG students. By replacing the door and surrounding brickwork with a glass screen and glass door this would have the advantage of allowing natural light into the dark entrance/lift area, connecting previously distinct spaces, and giving a more welcoming appearance that will draw students into the study area.

Estimated costs for the requisite work and furniture are on the attached quote from FM (£17,412) + the supply and cabling for a flat screen TV (£1,150).

**TOTAL COST £18,562**

**2)** **Completion of UG student area within PHIR**

An additional £1,000 is required to successfully complete the previously funded project in PHIR to create an undergraduate social space in the former HoD office (A305A) and the adjacent reception room. The addition of a wall-mounted flat screen TV in the room for presentations, multi-media use, live TV, etc. (LG 47KW650T TV plus cables and wall brace: £1,150) would further enhance the area.
**TOTAL COST £2,250**
**3) Postgraduate Social Space in PHIR**

Funding is requested to update the student/staff shared area into a bright and welcoming space in PHIR for PG students. The cost of painting, re-furnishing and re-flooring the room is estimated at £8,924 and as this is a shared student/staff space, the request is for half of this amount.

**TOTAL COST £4,462**

**4) Replacement of blinds in teaching rooms in PHIR**

The blinds in teaching rooms A202, A204 and A218 need upgrading to blackout blinds for when using the data projector during the daytime.
**TOTAL COST £3,000**

**School of SSEHS**

Bids to the Teaching Capital Fund from SSEHS

The following will enhance the student experience in the Sir John Beckwith Centre

(1) In the foyer of the centre there is a display screen. It is proposed to make this more useable to provide current information to students by installing a SubInfo system with one player and channel (cost: £1620 inc. VAT).

(2) Replace existing tall-boy coursework boxes, using low-level coursework boxes with a good-sized worktop that will allow students some writing space and space for some information leaflets (cost: approximately £1,000).

(3) Provide some low chairs and tables to be located near the ‘welcome’ wall (below the screen) to provide a social area for 6-10 students where they can access their laptops and/or wait for friends or for appointments/lectures (cost: approximately £1,000).