

**University of Windsor
Program Development Committee**

*6.1c: **PDC UPR Annual Status Report Form (2004-2005)**

Item for: **Information**

See attached.

PROGRAM DEVELOPMENT COMMITTEE
UNDERGRADUATE PROGRAM REVIEW (UPR)
FIFTH ANNUAL STATUS REPORT FORM
CHEMISTRY AND BIOCHEMISTRY

SUBMISSION DEADLINE: **NOVEMBER 1, 2004**

REQUIRED APPROVAL/SIGNATURES*

	Date approved (yy-mm-dd)	relevant signature (Chair, Director, Head, and/or Dean)
Department/School:		
Faculty:		

*the Department/School/Faculty must obtain approval/signatures from all those listed above prior to sending the material to the secretary of PDC.

The *original* copy with the dated signatures of those indicated above, as well as the *electronic* version of the completed form, will be forwarded to:

Ms. Renée Wintermute
Director, Senate Secretariat
Phone: 519-253-3000, x3347
Email: reneew@uwindsor.ca

Recommendation 1: Faculty renewal: one in Physical Chemistry; one in Analytical Chemistry (Environmental Specialization).

Recommendation satisfied (2000-2001).

Recommendation 2: Laboratory renewal: upgrade equipment in existing undergraduate laboratories; establish a computer or virtual laboratory.

Agents: Program Chair, AAU Head, and Executive Dean

Completion by: Subject to funding availability, equipment upgrade by Fall, 2000; computer lab by June, 2001

Actions taken (1999-2000):

- The computer lab (shared with Physics) is already in place and has already been upgraded once (with IT funds distributed to the Colleges last budget year). The opportunity offered by such initiatives as the Superbuild Fund provides an open window for renewal (or at least revitalization) of our teaching laboratories. Rather than continuing in the traditional modular fashion of having a separate and distinct laboratory for each course, we will be adopting an integrated laboratory model. In this model, different categories of experimentation will be housed in different laboratories (rooms or sites). Separate proposals have already been submitted in draft form for an integrated biotechnology laboratory (joint with Biology) and for an integrated instrument package to serve the Chemistry and Materials program. This integration will eliminate needless duplication of equipment and instructors. As a corollary, for the same budgetary expenditure, better equipment and better instruction can be made available to the students.

PDC-recommended further actions to be taken (2001):

- pursue proposals for integrated laboratories.
- with regard to virtual laboratory, see 'Action taken' for recommendation 4.

Actions taken (2001):

- Dr. L.Lee(Chemistry and Biochemistry) has recently attended a Conference and workshop on the laboratory aspects of Biotechnology.
- A proposal for the position of a Technician/Coordinator has been made and budgetary approval has been sought from the Dean.
- Dr. Schurko(Chemistry and Biochemistry) is in the process of redesigning a new physical laboratory which will include a substantial part of the equipment and experimental curriculum for an integrated Chemistry and Materials teaching laboratory.
- Funding to provide equipment purchase has not yet been made available although detailed budgetary requests have been made.
- There is a critical need for additional laboratory space to house the proposed new undergraduate laboratories. Renovation to some existing space will provide a short term solution; however, with anticipated enrolment increase and the reinstatement of the intermediate Physical Chemistry laboratory (which has been canceled for the past three years due lack of space) additional space must be found. It is no longer possible to cannibalize any of our existing space to facilitate teaching or research needs.
- An idea solution to the space requirements for the undergraduate teaching laboratories in Biotechnology/Physical and Materials Chemistry would be the return of our former Chemistry Store Room (Essex Hall B74) which to all appearances is grossly underused.

PDC-recommended further actions to be taken (2002):

- the area is encouraged to increase its efforts regarding pursuing proposals for integrated laboratories.

Actions taken (2002):

- Biotech on target. Phys. Chem. Integration and re-vamping are in progress.

Actions taken (2003):

- 3/4 of undergraduate laboratories have been renovated (complete Aug. 2003)
- A new resource centre and computer room, in conjunction with the Department of Physics, is currently

being renovated in existing space in Essex 182. It will be operational Dec. 2003.

- A biotech coordinator has been hired.
- The biotech laboratory has been renovated, and is ready to go for Sept. 2004, instrumentation and chemicals are under order.
- All senior biochemistry laboratories have been integrated into one full-year biochemistry and biotechnology laboratory course.
- We have obtained a new atomic absorption (AA) spectrometer for analytical chemistry. This AA was donated to our department and acquired with the help of the Dean of Science. Installation funds are currently being sought from this office.
- We have obtained a new high-performance liquid chromatograph for analytical chemistry. The HPLC was obtained from Agilent at low cost via negotiations with the vendor.

Further actions to be taken (2004):

- The creation of new integrated physical / analytical / materials characterization laboratories. The physical/spectroscopy component can be shared with the Department of Physics. The analytical instrumentation will be used for all undergraduate chemistry courses at second-year level and above, including organic, inorganic, analytical, physical and biochemistry / biotechnology courses. This is a request for additional space (possibly Essex B74) and some funding for renovation of existing space (Essex 182).
- Efforts are being made to obtain analytical instrumentation such as teaching NMR spectrometers, instrumentation for characterization of nanomaterials and other equipment. This will require some financial support as well.

PDC-recommended further actions to be taken (2004):

PDC recommends to the Budget Committee that funds be made available for new equipment and lab upgrades, resources permitting.

Update [*list actions taken and further actions to be taken*]:

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Status: ___ahead of target ___on target ___behind target ___recommendation satisfied.

Recommendation 3: That faculty take a more active role in the design and delivery of undergraduate laboratory experiences.

Recommendation satisfied (2001-2002).

Recommendation 4: Conversion of the Laboratory Coordinator (shared responsibilities) to a full-time position. Alternately, addition of a full-time Demonstrator (50% to Chemistry/Biochemistry labs and 50% to Physics labs). The existing lab Demonstrator could devote 50% to Spectrometer Technician role, and 50% to Chemistry/Biochemistry labs. However, further exploration of the suggestion to establish a virtual laboratory should be undertaken prior to acceptance of the Laboratory Coordinator/Demonstrator recommendation.

Recommendation satisfied (2002-2003).

Recommendation 5: Development of a co-operative education program in Chemistry, if viable.

Recommendation satisfied (2001-2002).

Recommendation 6: That a Thermodynamics course be offered with the Physics department.

Agent: Program Chair, AAU Head, Executive Dean, and Council

Completion by: Fall, 2000

Recommendation withdrawn (2003-2004).

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