

## Agriculture, Forestry expand outreach programs

UBC's two renewable-resources faculties — Agricultural Sciences and Forestry — have begun a massive expansion of their continuing education programs.

Highlights of the program include:

- The signing last week of agreements between UBC and Prince George's College of New Caledonia and Kelowna's Okanagan College for the use of facilities at the Interior centres where credit and non-credit agri-

cultural sciences courses will be given;

- Establishment of advisory committees in various areas of the province to assist recently appointed directors of continuing education in both of the UBC faculties; and

- Development by the Faculty of Forestry of the first university-level correspondence courses in forestry, including one that involves production of 15 60-minute lectures on cassette tapes.

UBC's president, Dr. Douglas Kenny, was in Prince George on Thursday (Jan. 17) for the signing of a formal agreement between UBC and the College of New Caledonia, which is co-operating with UBC by providing administrative services and classroom space for an expanded agricultural sciences continuing education program.

The following day (Friday, Jan. 18) dean of Agricultural Sciences Warren

Kitts was in Kelowna to sign a similar agreement with Okanagan College, which has several learning centres in the Okanagan Valley.

Prof. George Winter, an agricultural economics specialist, is heading up the expanded continuing education program in Agricultural Sciences with the assistance of Graham Drew, who was recently seconded to the faculty from UBC's Centre for Continuing Education, where he headed up the centre's resource industries program for more than 20 years.

Prof. Winter said his faculty will begin instruction almost immediately in Prince George in basic courses in soil and animal science and agricultural economics. Three 1½-unit courses will be offered initially by UBC and local experts. A one-day non-credit symposium on northern agriculture is also planned for March 15.

He said the possibility of establishing in Prince George a centre for the study of agriculture in the far north will also be explored at the symposium.

Additional courses will be offered by Agricultural Sciences in the Interior later this year, building on the ones to be offered in the first six months of this year. He said the extent of the UBC offerings will depend on how

# UBC reports

Volume 26, Number 2, Jan. 23, 1980. Published by Information Services, University of B.C., 2075 Westbrook Mall, Vancouver, B.C. V6T 1W5, 228-3131. Jim Banham and Judith Walker, editors. ISSN 0497-2929.



Jim Banham photo

New campus music group — the UBC bagpipe band — will give its first public performance Friday (Jan. 25) for patients in the campus Extended Care Unit in UBC's Health Sciences Centre Hospital. Associate professor of Germanic Studies Dr. Edward Mornin, extreme left, was the instigator of the pipe band which is currently looking for drummers. Contact Dr. Mornin at 228-5140 if you're interested. Pipers are, left to right after Dr. Mornin,

Richard Bernstein, a graduate student in Chemistry; Bruce Thompson, Education 4; Jennifer Belanger, a graduate student in Education; Peter White, Science 4; and Ruth Tremaine, Agricultural Sciences 4. The coming-out concert Friday takes place on an appropriate date — it's Robbie Burns Day, which commemorates the birth of the great Scottish poet in 1759.

## Right to view final exams approved

UBC students have won the right to view their marked, final exam paper with course instructors despite protestations that the move attacks the integrity of the examination process.

A student-sponsored motion on the accessibility of marked exam papers was approved at the January meeting of Senate held last week. Department heads are charged with ensuring that the policy is carried out, provided that students submit a written application requesting that they be allowed to view the paper with the course instructor.

Both Doug Watts, the student senator who sponsored the motion, and President Douglas Kenny, who chairs Senate, agreed that there were a number of procedural difficulties connected with the new policy that must be ironed out before it can be implemented.

President Kenny, at the conclusion of the debate, told Senate that "someone in the administration is going to have to work out the details" leading to the implementation of the motion.

Mr. Watts, in a written rationale submitted with his motion, said the writing of an exam, "if truly to be an educational process," must be followed by students learning what they did not understand in the course material.

Pointing out that in many courses the final exam is the only evaluation of a student's work, the rationale posed two questions: "How can that evaluation be useful to a student if the only feedback is a single number?" and "In courses where other exams are written, why should the student be allowed free access to mid-term and Christmas exams (and) then be told

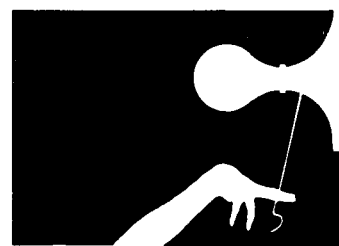
that it is not allowed for a final exam?"

The rationale said that presently students are unable to see their marked final exam papers before making a decision on whether to appeal a mark. As a result, students cannot reasonably be expected to argue whether they were justly treated "when they have not seen how their examination was marked."

The wording of the motion had been left open purposely, the rationale said, "to allow flexibility in its implementation" and to provide for the student to submit a written request so that only those who are serious about seeing their papers will do so.

In the debate that followed introduction of the motion, senators opposed to it made the following points:

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See SENATE



### Watch for these

You should be seeing these stickers on light switches around campus these days. They're all part of UBC's energy conservation campaign which encourages UBC people to be aware of how they can join in the fight to keep our energy bill down.

The stickers are intended to remind people to turn off lights when they're leaving classrooms and offices on campus. UBC's energy bill this year will amount to more than \$3,500,000, more than twice what it was in 1971.

much money is available in the coming fiscal year.

"We'd like to be able to make concrete plans for the next five years," Prof. Winter added, "but at the moment we have no definite commitment of funds."

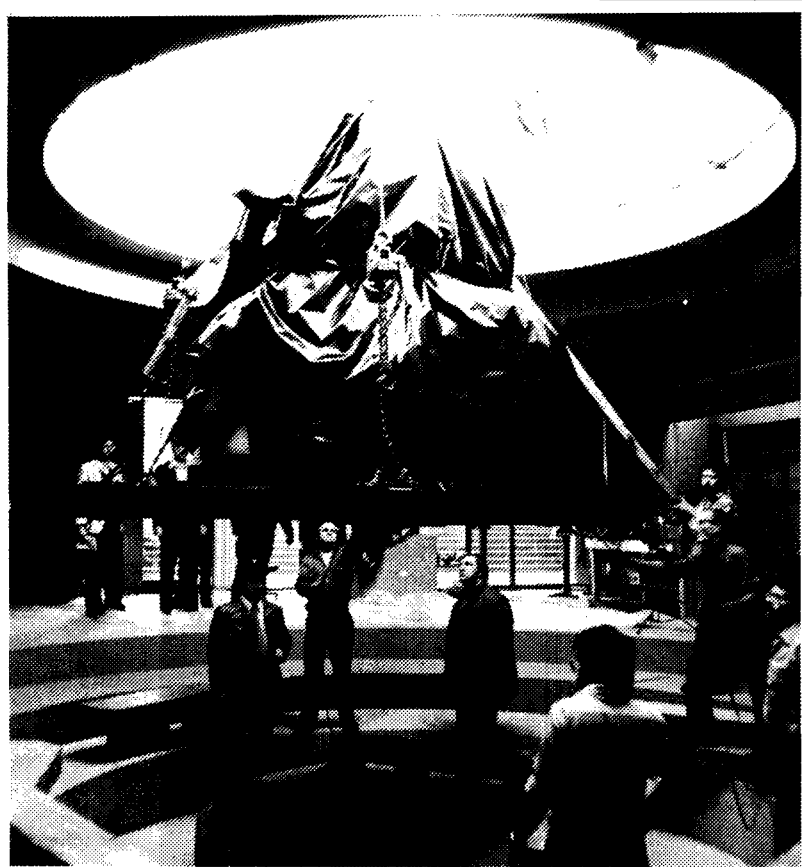
The faculty has also appointed individuals to aid in the organizing of programs in both Prince George and Kamloops, where the faculty is close to signing a third agreement with Cariboo College. UBC graduate Walter Carlson has been named to assist the UBC program in Prince George and UBC assistant professor of plant science Dr. Michael Pitt will perform a similar function in Kamloops, where the faculty offered its first credit course last summer.

Prof. Winter said the courses to be offered in the Interior reflect the dominant agricultural concerns of each area. He paid tribute to the principals of each of the colleges, whom he said had been very co-operative and helpful in planning the expanded UBC programs.

He added that the local advisory committees established in Prince George, Kamloops and Kelowna represented a broad section of the professional community and included local farmers, college representatives and employees of Agriculture Canada and the B.C. Ministry of Agriculture.

The Faculty of Forestry's expansion plans are based on a feasibility study

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See FORESTRY



Jim Banham photo

Glass dome in the roof of UBC's Museum of Anthropology was removed last week to allow seven-foot-high sculpture weighing more than three tons to be lowered into place. Sculpture depicts the Haida Indian legend of the creation of man symbolized by raven discovering man in a clam shell. A small version of the sculpture (right), carved by artist Bill Reid (and photographed by Selwyn Pullan), was used as a model for the larger work created by Vancouver artist George Norris and Gary Edenshaw, from the Queen Charlotte Islands. Finishing touches will be put on the sculpture by Reid and assistant Jim Hart before the work is unveiled sometime in the spring. The sculpture was commissioned by Dr. Walter Koerner, a former chairman and member of UBC's Board of Governors, who with his wife, Marianne, gave UBC a valuable collection of Indian art now housed in the museum.



**FORESTRY**

Continued from page 1

commissioned last summer and carried out by Industrial Forestry Service located in Prince George.

The firm provided UBC with specific guidance on the demand for credit and non-credit courses for approximately 3,000 foresters, forest engineers and forest technicians in the province and on methods of delivery and presentation of courses.

Prof. Donald Munro, who has been named director of off-campus and continuing education in the forestry faculty, said his first priority is the development of correspondence courses through the Guided Independent Study Centre of UBC's Centre for Continuing Education.

He said the professional people interested in continuing education courses in forestry were widely scattered throughout the province, which would make it difficult for them to attend a weekend lecture course in an Interior location.

As a result, he said, the faculty had decided to develop correspondence courses which could be mailed to individuals interested in upgrading their professional qualifications.

He said the faculty's correspondence courses would be the equivalent of courses offered to full-time students on the UBC campus and would count toward completion of a UBC degree. "It's anticipated," Prof. Munro said, "that by September, 1981, it should be possible for a student to complete the first two years of the five-year professional program at any of the major colleges in the province and that at

least one of the three remaining years can be completed by independent study through enrolment in the courses prepared for distance delivery."

A total of five forestry courses at the 200 and 300 levels are currently being prepared as correspondence courses and four others are being considered for development.

"So far as we know," Prof. Munro said, "these UBC courses are the first university-level correspondence courses in forestry offered anywhere. One of them is somewhat experimental and involves tape recording 15 60-minute lectures on cassette tapes, which students will be able to listen to on a recording and playback unit in their own homes and which will be supplemented by a reading list supplied as part of the course."

**Singers on tour**

The University Singers from UBC's Department of Music have been taking their talents throughout the province this month, their third annual Alumni Association-sponsored tour.

The group of 30 students have been giving evening concerts to audiences in Duncan, Nanaimo, Courtenay, Port Alberni, Parksville and Chilliwack under director James Schell of UBC's music department. As well, they held workshop sessions with local school choirs in Chilliwack, Nanaimo and Comox.

**SENATE**

Continued from page 1

- Procedures already exist in general University regulations and through the Senate standing committee on student appeals that enable students to review their final exams with instructors;

- Many exams are marked on a team basis and implementation of the motion would involve "committee discussion and deliberation" between students and faculty members, many of whom are not available following final exams in the spring because of commitments elsewhere;

- Implementation of the motion would result in a move away from the "more challenging, subjective type of question to very precise, objective questions over which there can be no debate"; and

- Final exam marks for many UBC courses represent only a fraction of the final grade assigned to a student's work because essays and mid-term exam marks are also taken into account.

Law professor Charles Bourne, opposing the motion, said that "talk about justice seems to me to be quite misplaced." The correction for an injustice is not to go and badger a professor about a mark, which he said attacked the integrity of the examination system.

"Let's not fool ourselves," he continued, "to think the student is interested in furthering his education....I've been exposed to this and the purpose of the exercise is to persuade you to change your mark."

Prof. Paul Gilmore, head of the computer science department, said in endorsing the aim of the motion that the existing formal appeal procedures don't really serve the purpose of the motion, "which is really to attempt a somewhat more flexible option for students."

Dr. C.E. Amerding, principal of Regent College, who also supported Mr. Watts's motion, said the principle is one that deserved Senate support, "that is, what we say in response to a student's examination, we are willing to defend."

\* \* \*

UBC's Senate has voted to establish a watchdog committee that will conduct an "ongoing review of the situation regarding statistics courses on campus."

The recommendation to establish a sub-committee on statistics under the standing Senate committee on curriculum was one of seven contained in the report of an ad hoc Senate committee established in January, 1979, to investigate the proliferation of statistics courses at UBC.

The sub-committee will be responsible for updating the separate listing of courses on probability and statistics that appears in the UBC calendar of courses, and will be empowered to require a full rationale from faculties and departments for introductory courses offered above the 300 level.

The sub-committee will also be empowered to require a full justification for the retention of existing, low-enrolment introductory statistics courses and would encourage faculties, schools and departments to seek ways of reorganizing their curricula to make use of other, existing statistics courses.

\* \* \*

Last week's Senate meeting saw a number of changes approved in UBC's admissions policies and curriculum.

Among the changes in admission are a formal restriction in enrolment for the Bachelor of Landscape Architecture program to 20 students in first year for this and the next academic years, due to delays in the funding of the program; a change in the listed academic requirements for admission to the Faculty of Law; and a change in the calendar statement on advancement from one year to the next which

recognizes the unique nature of the Licentiate in Accounting program.

The change in admission requirements for the Faculty of Law merely brings the written regulations more closely in line with practice, Law Dean Kenneth Lysyk explained to Senate. Although the requirements were changed from an overall standing of not less than 60 per cent to not less than 65 per cent, Dean Lysyk said that the mean of average grades for students entering first year Law is now 78.81 per cent. Over the last five years, only 14 students out of 1,200 have been admitted to the faculty with overall averages below 70 per cent. Students can also now be given a conditional offer of acceptance into the faculty while they are in their third year of undergraduate work.

The January Senate meeting is typically one when changes in curriculum and proposals for new courses come forward for approval for the coming academic year. Among the many changes approved were:

- A new calendar entry regarding the Faculty of Arts English composition requirement to make clear to transfer students that they will be treated on the same basis as students who have completed English 100 at UBC. To qualify for bachelor's degrees within the Faculty of Arts, students must obtain credit for English 100 or Arts One and must pass the English Composition Test. Students who haven't passed the composition test will be able to write it during registration week, or during the December and April exam period. Those who anticipate difficulty passing the test will be advised to enrol in the Centre for Continuing Education's remedial English course, as the Basic Composition Workshop is no longer offered by the Department of English.

- An overhaul of the first-year program in the Faculty of Law, allowing, among other things, for more emphasis on criminal and constitutional law, and integration of legal writing practice with existing courses rather than a separate course as it now stands. Changes to the second- and third-year curriculum will be developed in time for the academic year 1981-82.

- A new Physical Education curriculum which broadens the theoretical base of knowledge required of B.P.E. graduates. Three composite introductory courses will be required of first year students in P.E. and courses in the second- and upper-level years will be based on these theory courses. Six new courses will be added altogether and several courses now offered will be changed.

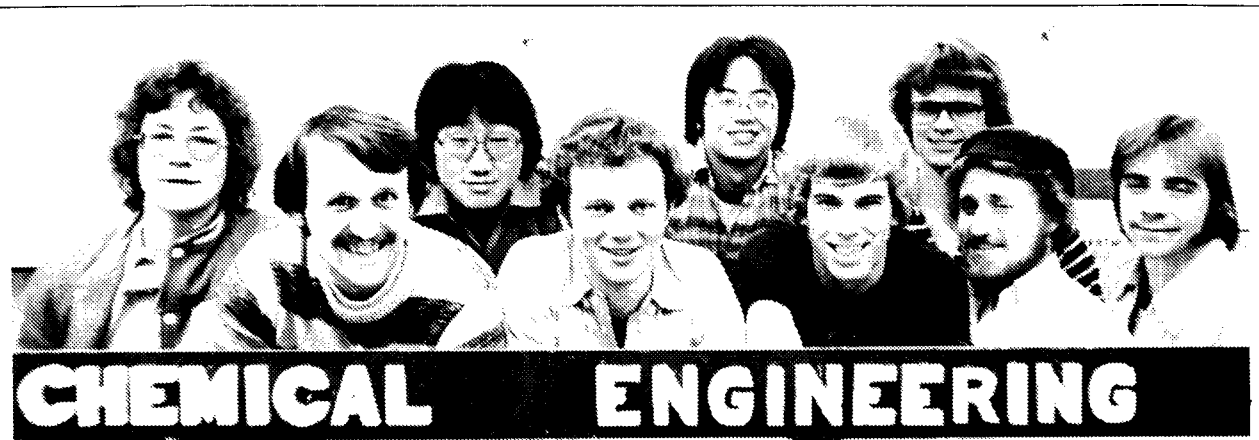
In presenting to Senate the Curriculum Committee's proposals this year, Dr. Jon Wisenthal, chairman of the committee, noted that there were no proposals for new programs. He suggested this might be because of the realization among faculty members that funding for new programs was at a minimum.

**Enrolments up**

Statistics Canada has released figures which show that enrolments at Canadian universities for 1979-80 have increased. In September, 1979, an enrolment decline was predicted.

The preliminary figures released last month show a 1.3 per cent increase in full-time enrolment and a 5.4 per cent increase in part-time enrolment. The most significant increases were at the undergraduate level, according to the Statistics Canada figures.

UBC's daytime winter session enrolment is up from 22,676 last year to 23,161 for the 1979-80 session, an increase of 485 students or 2.1 per cent. This year's undergraduate enrolment is up 1.3 per cent, while graduate enrolment is up by 7.2 per cent.



Jim Banham photo

Nine of the 12-member executive of the UBC student chapter of the American Institute of Chemical Engineers, which has won an Award of Excellence from the institute, pose for the *UBC Reports* camera. Left to right are: chapter treasurer Bruce Veale, a third-year student; chapter president Hector Trip, fourth year; Engineers' Ball model chairman Raymond Ma, fourth year; second-year student

Al Strang; social co-ordinator Richard Chew, fourth year; Tea Cup Bowl chairman Gordon Springate, third year; Engineers' Ball decoration chairman Don Olson, fourth year; chapter secretary Dennis Wiebe, third year; and Lyle Whitmore, a third-year student and the chapter's first vice-president.

## UBC is big name in chem eng field

UBC is very big in the chemical engineering world these days.

Consider:

- Prof. Norman Epstein, a member of the UBC faculty since 1951, is the new president of the 3,500-member Canadian Society of Chemical Engineering; and

- The UBC student chapter of the American Institute of Chemical Engineers has been awarded a 1979 Award of Excellence by the institute for "outstanding achievement in activities relating to furthering the goals of professionalism and chemical engineering among students in our discipline."

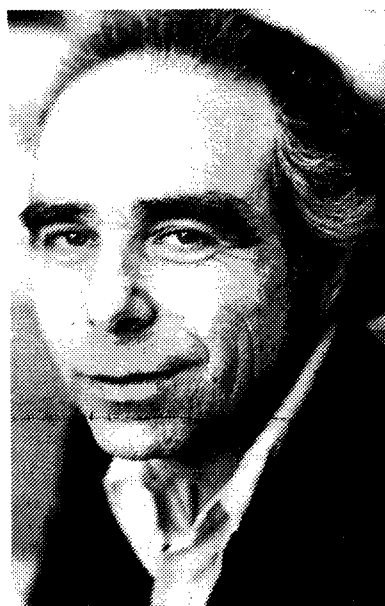
The award to the UBC student chapter is one of 11 made annually by the institute on a regional basis. A total of 131 student chapters are eligible for the awards.

The award of excellence was actually made to the 85 students who were enrolled in UBC's chemical engineering program during 1978-79, when the chapter executive was headed by fourth-year student Ron Reid, who received his degree last spring.

However, the 1979-80 chapter president, Hector Trip, also a fourth-year student, says the chapter stands a good chance of getting a second award of excellence in 1980 because of the continuing level of student activity.

The activities of the chapter are roughly divided into professional, community service and social activities.

The 1978-79 award-winning group organized field trips to industrial sites in Vancouver, Trail and Alberta. The latter trip, which lasted a week, included visits to oil refineries, petrochemical plants and a gas plant. Last year, four members of the UBC class attended the annual regional meeting of the institute in Montana, where one of them read a paper to the student delegates.



Jim Banham photo

Norman Epstein

The chapter also meets regularly to see films of chemical engineering processes and to hear speakers representing the engineering profession.

In terms of community service, the chem. eng. chapter played a leading role in organizing the annual Tea Cup Bowl which pits female students in Nursing and Home Ec. against one another in a noon-hour "fall classic" football game.

Chemical engineer Henry Gno was chairman of the Tea Cup game in 1978-79, and succeeded in doubling to a record \$2,030 the money collected before and during the game for charities that aid crippled children and muscular dystrophy sufferers. Another chemical engineer, Ted Hansen, was chairman of this year's event.

The 1978-79 group also played a large role in the operations of the Engineering Undergraduate Society and built a working model of an

electrolytic cell for the desalination and purification of seawater for the annual Engineers' Ball and the 1979 Open House.

The student chapter also organized an annual "Doughnut Day," when interested visiting high school students are counselled about the chemical engineering profession.

Students are also involved in the affairs of the department and several were elected to joint faculty-student committees of the Faculty of Applied Science dealing with curriculum, library and safety.

Students from the chem. eng. department field teams for such intramural sports activities as soccer, flag football, the Arts '20 relay, basketball, baseball and volleyball and staged a wide variety of social gatherings throughout the University year.

Prof. Epstein, the new president of the Canadian Society of Chemical Engineering, has a long history of association with the UBC student chapter, serving as its counsellor from 1954 to 1968. (The position is currently occupied by Prof. Janis Lielmezs.)

A native of Montreal, Prof. Epstein is a graduate of McGill University in Montreal, where he received the degrees of Bachelor and Master of Engineering, and New York University, where he was awarded the degree of Doctor of Engineering Science in 1953. He was a lecturer and part-time instructor at both McGill and New York University while carrying out graduate work.

A prolific author, Prof. Epstein has been active in a number of professional organizations and has been the recipient of some of Canada's top research awards, including a senior research fellowship from the National Research Council and a Killam Research Fellowship.

## Goal reached as fewer donors give more

Results of the United Way campaign of the fall are now in and tabulated and we've reached our goal!

In fact, this year's goal of \$100,000 for the annual fund drive has been surpassed. Faculty, staff and students have given or pledged \$108,000 which will go to support 76 agencies which offer "human care" services to people in the Lower Mainland.

Although the UBC United Way committee had hoped this year to in-

crease the number of donors among faculty and staff on campus, that number is down, to 673 from last year's 773. Students donated \$25,000

UBC's research administrator, Dr. Richard Spratley, has called for nominations for the 1980 Prof. Jacob Biely Research Prize, which carries with it a cash award of \$1,000.

The prize is awarded annually to a UBC faculty member for distin-

guished research recently accomplished and published. Details of the method of nomination are available from Dr. Spratley's office in the Old Auditorium or by calling 228-3652.

Deadline for submission of nominations and supporting material is Feb. 8.

## Lecture series set

The first of three lectures on aging, sponsored by the UBC President's Committee on Gerontology, will take place today (Wednesday, Jan. 23) in Lecture Hall 3 of the Woodward Building.

The talks on aging are one of three major lecture series that begin on the UBC campus during the month of January.

Prof. John Hogarth of UBC's Faculty of Law opens the aging lecture series today at 12:30 p.m. with a talk on "Issues of Mandatory Retirement." Prof. Edith McGeer of Neurological Sciences speaks on Feb. 15 at 12:30 p.m. on "Neurotransmitters in the Aging Brain," and the final talk will be given March 12 at 12:30 p.m. by Pharmaceutical Sciences research associate Douglas Danforth, whose topic is "Drugs and the Elderly-How Compatible Are They?"

A series of eight noon-hour lectures on the topic "Canada at Midlife Crisis," sponsored by the Departments of History and Political Science, begins on Jan. 31. University of Toronto historian Craig Brown leads off the series in Room 104 of the Buchanan Building on the topic "Leadership in Canada."

In subsequent weeks until March 27 speakers will discuss such topics as nationalism and separatism in Quebec, the Canadian economy and energy policy, and political parties and the survival of Canada.

Speakers in the series include University of Toronto historians Michael Bliss and Ramsay Cook and political scientists Donald Smiley of York University and Donald Meisel of Queen's University.

One of Great Britain's leading judges will begin the spring series of free public lectures sponsored by the Vancouver Institute at UBC.

Sir George Baker, now past-president of the family division of England's High Court of Justice, will give the Dal Grauer Memorial Lecture on Jan. 26 — the first of 10 Saturday night talks which will take place in Lecture Hall 2 of the Woodward Building beginning at 8:15 p.m.

The series, which will continue until March 29, includes talks by outstanding teachers visiting UBC as Cecil H. and Ida Green Visiting Professors.

Other speakers include Canadian poet and critic Eli Mandel, who speaks on "A Poet's World" on Feb. 9; Chinese historian and archeologist Hou Jen-chih of Peking University, who speaks on ruined cities of Inner Mongolia on March 8; Dr. Richard Weinsilboum of the Mayo Clinic in Rochester, Minnesota, whose topic on March 22 is "The Chemistry of the Brain"; and Sir Andrew Huxley of University College, London, England, who speaks on old and new discoveries in muscle physiology on March 29.

A brochure listing all Vancouver Institute spring lectures is available from Information Services, 228-3131.

## Grads must apply

No application, no degree.

That's the word this week from the Registrar's Office, which reminds students who expect to graduate this spring that they must submit Application for Graduation cards.

If you're in Arts, Commerce, Education or Science a card will be mailed to you. Graduating students in all other degree programs except Graduate Studies can obtain cards from faculty offices. Students in Grad Studies can obtain the cards from their advisors.

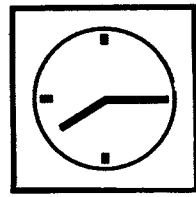
Deadline for submission of the cards to Mrs. Rosina Kent in the Registrar's Office Feb. 15.

# UBC Calendar

## UBC CALENDAR DEADLINES

Events in the week of:  
 Feb. 3 to Feb. 9 Deadline is 5 p.m. Jan. 24  
 Feb. 10 to Feb. 16 Deadline is 5 p.m. Jan. 31  
 Send notices to Information Services, 6328 Memorial Road (Old Administration Building), Campus. Further information is available at 228-3131.

## THE VANCOUVER INSTITUTE



**SATURDAY, JAN. 26**  
 Rt. Hon. Sir George Baker, Royal Courts of Justice, London, on **Family Law**.  
**SATURDAY, FEB. 2**  
 Prof. Geoffrey Parker, Modern History, University of St. Andrews, on **Conscience and Power: Philip II of Spain, History and Legend**.  
 Both lectures at 8:15 p.m., Lecture Hall 2, Woodward Instructional Resources Centre.

## SUNDAY, JAN. 27

- 8:45 a.m. **CONTINUATION OF CONFERENCE** on **Process Thought and Aesthetics** which began Friday evening. Speakers and programs continue all day, adjourning Monday at 12:15 p.m. Vancouver School of Theology. For further information call George Hermanson at 224-3722. No admission charge.
- 1:30 p.m. **MUSEUM OF ANTHROPOLOGY**. Northwest coast Indian students present a program on the traditional uses of the cedar tree. Repeated at 2:30 p.m. 6393 Northwest Marine Dr.
- 7:30 p.m. **FESTIVAL OF RELIGION AND THE ARTS**. Worship at Vancouver School of Theology, Chapel of the Epiphany.
- 8:30 p.m. **FESTIVAL OF RELIGION AND THE ARTS** Lecture. Bernard Lee and Marnie Dilling on **Illustration of Charles Ives**. Art Gallery, Student Union Building.

## MONDAY, JAN. 28

- 12 noon **CANCER RESEARCH SEMINAR**. Dr. P.S. Rennie, research scientist, Cancer Endocrinology, Cancer Control Agency of B.C., on **Androgen-Receptor Dynamics in Rat Prostate**. Lecture Theatre, B.C. Cancer Research Centre, 601 W. 10th Ave.
- 12:30 p.m. **FESTIVAL OF RELIGION AND THE ARTS** presents **Job**, a monodrama by John Stuart Anderson. Art Gallery, Student Union Building.
- 2:30 p.m. **INFORMATION SYSTEMS TASK FORCE** presents four open forums this week, to give people a chance to react to themes now under consideration by this group. The first forum is on **University Information Systems for the Eighties — An Overview**. Room 201, Computer Sciences Building.
- 3:30 p.m. **GEOLOGICAL SCIENCES COLLOQUIUM**. Dr. J.C. Horne, University of South Carolina, Columbia, on **Applications of Depositional Model in Coal Exploration and Mine Planning**. Room 330A, Geological Sciences Centre.
- COMPUTING CENTRE LECTURE**. The first in a series of six lectures on **Introduction to Computing** by Al Fowler of the UBC Computing Centre. Room 200, Computer Sciences Building.
- APPLIED MATHEMATICS SEMINAR**. Dr. Martin D. Kruskal, Program in Applied Mathematics and Astrophysical Sciences and Mathematics, Princeton University, on **Exact Integrability of Benjamin-Ono Equation**. Room 203, Mathematics Building.
- COMMERCE/ECONOMICS SEMINAR**. William Rogerson, California Institute of Technology, on **Economic Efficiency and Contract Law**. Room 351, Brock Hall.
- 3:45 p.m. **MECHANICAL ENGINEERING SEMINAR**. Dr. J.P. Duncan, Mechanical Engineering, UBC, on **The Curved Folding of Sheet Metal**. Room 1215, Civil and Mechanical Engineering Building.
- 4:00 p.m. **BIOCHEMISTRY SEMINAR**. Rajiv Nayar, Biochemistry, UBC, on **Phospholipids as Adjuncts to Ca<sup>2+</sup>-stimulated Release of Chromaffin Granules. Implications for the Mechanism of Exocytosis in vivo**. Lecture Hall 5, Woodward Instructional Resources Centre.
- ASTRONOMY SEMINAR**. Dr. Jean Eilek, National Radio Astronomical Observatory, Charlottesville, Va., on **The Saga of Particle Reacceleration in Radio Galaxies**. Room 318, Hennings Building.

## TUESDAY, JAN. 29

- 12 noon **MONEY TALKS**, a series of free noon-hour lectures presented by UBC's Centre for Continuing Education. The second in this series is **RRSPs: Retirement Options**, with Gil Munro, CLU, insurance broker. Robson Square Media Centre, 800 Hornby St. in downtown Vancouver.
- 12:30 p.m. **FREESIE FILM SERIES** presents a six-part series on **Civilization** with Kenneth Clark. This week's film is **The Smile of Reason**. Auditorium, Student Union Building. Free.
- FOUR FACES OF IRAN**. The second in a four-part series of illustrated lectures. Dr. Hanna E. Kassis, Religious Studies, UBC, on **Isfahan: Masjid-i-Jami' and Cognate Architecture**. Room 104, Lasserre Building.
- PHILOSOPHY LECTURE**. Charles Hartshorne, University of Texas, on **Grounds for Believing in God**. Room 157, Law Building.
- ETHNOMUSICOLOGY LECTURE**. Lou Harrison, guest composer-lecturer, on **Some Aspects of the Influence of Non-Western Music in 20th-Century Composition: the Past and Future**. Room 113, Music Building.
- FESTIVAL OF RELIGION AND THE ARTS** presents **Baroque Concert** with Hunt and Becky Beyer and Jeffery Campbell. Art Gallery, Student Union Building. At 8:30 p.m. Rona Murray reads her poetry.

## TUESDAY, JAN. 29 continued

- 2:30 p.m. **INFORMATION SYSTEMS TASK FORCE** forum on **Commitments and Encumbrances — a By-Product of Personnel and Purchasing Systems**. Room 201, Computer Sciences Building.
- 3:30 p.m. **SPECIAL MATHEMATICS COLLOQUIUM**. Dr. M. Kruskal, Program in Applied Mathematics and Astrophysical Sciences and Mathematics, Princeton, on **Surreal Numbers**. Room 104, Mathematics Building.
- OPTIMIZATION SEMINAR**. Dr. J.M. Bismut, Paris, on **Control of Filtering Equations, Continued**. Room 203, Mathematics Building.
- OCEANOGRAPHY SEMINAR**. Dr. A. Gillam, post-doctoral fellow, Oceanography, UBC, on **Humic Substances — Some Recent Developments**. Room 1465, west wing, Biological Sciences Building.
- 4:30 p.m. **CHEMISTRY SEMINAR**. Dr. Ray Andersen, Chemistry and Oceanography, UBC, on **Marine Natural Products — An Ocean of Organic Chemistry?** Room 250, Chemistry Building.
- 6:00 p.m. **MUSEUM OF ANTHROPOLOGY** free identification clinic. Bring your collectibles. 6393 Northwest Marine Dr.
- 7:30 p.m. **FESTIVAL OF RELIGION AND THE ARTS** presents the film **Who Has Seen the Wind**. Auditorium, Student Union Building. Admission, \$1.

## WEDNESDAY, JAN. 30

- 12 noon **PHARMACOLOGY SEMINAR**. Dr. Burton H. Goldstein, Oral Surgery, UBC, on **Topical Therapy for the Lovebug**. Room 114, Block C, Medical Sciences Building.
- 12:30 p.m. **NOON-HOUR CONCERT**. Esther Glazer, violin, plays **Music of Ben Haim and Ysaye**. Recital Hall, Music Building.
- SLAVONIC STUDIES LECTURE**. Jan Solecki on **Advances and Frustrations in Economics and Politics (USSR)**. Room 102, Buchanan Building.
- HABITAT SERIES on Ghana's Settlement System: Can It Be Planned for Comprehensive Development?** Prof. P. Austin Tetteh, dean, Faculty of Architecture, University of Science and Technology at Kumasi, Ghana, and visiting Scholar-in-Residence, UBC's Centre for Human Settlements, on **Rural Change**. Room 107, Lasserre Building.
- 2:30 p.m. **INFORMATION SYSTEMS TASK FORCE** forum on **Timeliness — the Need and its Consequences**. Room 201, Computer Sciences Building.
- 3:30 p.m. **FESTIVAL OF RELIGION AND THE ARTS** presents Alyana Scott, a potter, at work in the conversation pit, Student Union Building.
- STATISTICS WORKSHOP**. Dr. Howard Stauffer, Mathematics, UBC, on **Distributions of Fraser's Spatial Statistics (Measuring Spatial Distribution in Forestry)**. Room 310, Angus Building.
- GEOPHYSICS SEMINAR**. Dr. Herb Dragert, Pacific Geoscience Centre, on **Repeated Precise Gravity Measurements on Vancouver Island**. Room 260, Geophysics and Astronomy Building.
- HISTORY SEMINAR**. R. Craig Brown, History, University of Toronto, on **The Canadian Historical Biography**. Room 1299, Buchanan Tower.
- 4:00 p.m. **BIOCHEMICAL SEMINAR**. Dr. R.S. Hodges, Biochemistry, University of Alberta, on **The Use of Synthetic Peptides in the Study of Structure-Function Relationships in Muscle Proteins**. Lecture Hall 6, Woodward Instructional Resources Centre.

## DRAMA

**A Midsummer's Night Dream** by William Shakespeare begins Wednesday, Jan. 23 at 8 p.m. and continues until Saturday, Feb. 2 (excluding Sunday). Frederic Wood Theatre. Admission, \$5; students and seniors, \$3. For reservations call 228-2678 or drop by Room 207 of the Frederic Wood Theatre.

## MUSICAL ENTERTAINMENT

Musoc presents **Sweet Charity** from Thursday, Jan. 31 to Saturday, Feb. 9, at 8:30 p.m. Old Auditorium. Previews, Tuesday, Jan. 29 and 30 at 8:30 p.m.; student matinee on Thursday, Feb. 7, at 12:30 p.m. Tickets, \$4; students \$3.50 (Tuesday, Wednesday, Thursday), from the A.M.S. Business Office or Vancouver Ticket Centre.

## SKATE UBC SPRING SESSION

An eight-week program begins on Saturday, Feb. 2. Children and adults are put into groups according to age and skill. Skating lessons, \$16.00; advanced free style, \$29.00; power skating and hockey skill development, \$35.00. For further information, call 228-5995, 9 a.m. to 1 p.m., Monday to Saturday.

## EXERCISE CLASS

Faculty and staff exercise class (men and women), term 2, meets in Gym E, Osborne Centre, Mondays, Wednesdays, Fridays; 12:30 to 1:05 p.m. Instructor: Prof. S.R. Brown. Admission free. Locker and towel service available for a fee. For information, call 228-4479.

## FINAL ORAL EXAMINATIONS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

Listed below are scheduled final examinations for the degree of Doctor of Philosophy at the University. Unless otherwise noted, all examinations are held in the Faculty of Graduate Studies Examination Room, General Services Administration Building. Members of the University community are encouraged to attend the examinations, provided they do not arrive after the examination has commenced.

- Monday, Jan. 28, 3:30 p.m.:** LARRY HUTCHINS, Chemistry: **The Surface Catalyzed Racemization of 1,1' - Binaphthyl**. (Room 225, Chemistry Building)
- Tuesday, Jan. 29, 10:30 a.m.:** JAMES SMITH, Chemistry: **A Conformational Study of 5-Fluorouracil Labelled Escherichia Coli 5S rRNA**. (Room 225, Chemistry Building)
- Thursday, Jan. 31, 2:30 p.m.:** EDWARD LAWRENCE MATHIE, Physics: **Intermediate Energy Pion Production**.

## WEDNESDAY, JAN. 30 continued

- 4:30 p.m. **COMPARATIVE LITERATURE COLLOQUIUM**. Dr. Karl Zaenker, Germanic Studies, UBC, on **A Counterpoint of Serenities: The String Quartet in Novels by A. Huxley, Th. Mann and R. Baumgart**. Penthouse, Buchanan Building.
- 7:30 p.m. **FESTIVAL OF RELIGION AND THE ARTS** presents Faye Mulder with music in the Art Gallery, Student Union Building.
- INTERNATIONAL FOLK DANCING** in the Upper Lounge, International House. Beginners, 7:30-9:30 p.m.; intermediate dancing, 9:30-11 p.m. Everyone welcome. For information, call 224-0226 or 228-3653.

## THURSDAY, JAN. 31

- 12:30 p.m. **FESTIVAL OF RELIGION AND THE ARTS** Lecture. Charles Hartshorne on **What is Beauty?** Art Gallery, Student Union Building.
- UBC CONTEMPORARY PLAYERS**, with co-directors Stephen Chatman and Eugene Wilson, perform **Music of Barkin, Harrison and Benjamin**. Recital Hall, Music Building.
- HISTORY LECTURE** (with slides). General James L. Collins, chief of military history, Department of Army, Washington, on **Two Centuries of Civilian Opposition to Wars Fought by the U.S. Army, 1775-1975**. Room 102, Buchanan Building.
- CANADA AT MIDLIFE CRISIS**, a series of free public lectures by some of the most distinguished thinkers on the Canadian condition. The first in the series is Craig Brown, History, University of Toronto, on **Leadership in Canada**. Room 104, Buchanan Building.
- LAW STUDENTS ASSOCIATION Film Committee** presents **I Am An Old Tree**, a 1974 film on Cuba. Rooms 101/102, Law Building.
- ACADEMIC WOMEN'S ASSOCIATION** session on **Trip to China**, with slides and narration by Pat Valentine, School of Nursing, UBC. Non-members welcome. Rooms G41-42, Woodward Instructional Resources Centre.
- PLANT SCIENCE SEMINAR**. Dr. R.J. Rennie, Agriculture Canada, Lethbridge, on **Nitrogen Fixation Associated With Spring Wheat**. Room 342, MacMillan Building.
- 2:30 p.m. **PHYSICS CONDENSED-MATTER SEMINAR**. Iain Calder, Northwestern University, on **Sound Propagation in Superfluid 3 He-B**. Room 318, Hennings Building.
- INFORMATION SYSTEMS TASK FORCE** forum on **Standards — the Key to Unity**. Room 201, Computer Sciences Building.
- 4:00 p.m. **PHYSICS COLLOQUIUM** with John Eldridge. UBC. Room 201, Hennings Building.
- 7:30 p.m. **SPANISH LANGUAGE EVENING** at the Coffeeplace, International House.
- 8:00 p.m. **YOUNG ALUMNI CLUB** presents an evening of relaxing live music. Full facilities. Final year and graduate students may join. Continues until 12 midnight at Cecil Green Park. Information at 228-3313.

## FRIDAY, FEB. 1

- 11:30 a.m. **HEALTH CARE SEMINAR**. Dr. Malcolm Weinstein, director of Health Planning for the Vancouver Health Department, on **Community Health Planning in the Vancouver Health Department**. Room 106, Mather Building.
- DEVELOPMENTAL MEDICINE SEMINAR**. Dr. N. Auersperg, Anatomy, UBC, on **Phenotypic Variation Among Malignant Tumors**. Room 15, Centre for Developmental Medicine, 811 W. 10th Ave.
- 12:30 p.m. **FESTIVAL OF RELIGION AND THE ARTS** presents the film **Joy of Bach**. Auditorium, Student Union Building.
- 1:00 p.m. **ADULT EDUCATION SEMINAR**. Marion Dank and Gayle Smythe on **Adult Literacy and Reading Instruction**. Adult Education Department, 5760 Toronto Road.
- MEDICAL GENETICS SEMINAR**. Dr. R.B. Lowry on **Delivery of Genetic Services in Southern Alberta**. 4th floor conference room, Health Centre for Children, Vancouver General Hospital.
- 2:00 p.m. **POLICY SEMINAR**. Suresh Lakshman Konda, School of Urban and Public Affairs, Carnegie-Mellon University, on **Forecasting Organizational Manpower Costs: Vacancy Versus Markov Models**. Penthouse, Angus Building.
- 2:30 p.m. **GEOLOGICAL SCIENCES LECTURE**. Dr. Friedrich Liebau, University of Kiel, West Germany, on **Crystal Chemistry of the Silicates**. Room 330A, Geological Sciences Centre.
- 3:00 p.m. **METEOROLOGICAL AND OCEANOGRAPHIC Lecture**. Michael Glantz, National Centre for Atmospheric Research, Boulder, Colo., on **The Value of An El Nino Forecast: A Social Science Perspective**. Room 147, Geography Building.
- 3:30 p.m. **MATHEMATICS COLLOQUIUM**. Dr. Carl Riehm, McMaster University, on **A Problem in Quadratic Forms that Arises from Analysis**. Room 1100, Mathematics Building Annex.
- FESTIVAL OF RELIGION AND THE ARTS Discussion** on **The Created Creator: The Image of God in the Artist**. Art Gallery, Student Union Building.
- CHEMICAL ENGINEERING SEMINAR**. Park Reilly, University of Waterloo, on **Parameter Estimation When There is Error in All the Variables — With Applications to Vapour-Liquid Equilibrium**, etc. Room 206, Chemical Engineering Building.
- LINGUISTICS COLLOQUIUM**. Dr. Richard De Armond, Literature, Languages and Linguistics, SFU, on **The Intransitive Nature of Have**. Room 2225, Buchanan Building.
- 7:30 p.m. **FESTIVAL OF RELIGION AND THE ARTS**. Closing worship. Vancouver School of Theology, Chapel of the Epiphany.
- 8:00 p.m. **ICE HOCKEY**. UBC Thunderbirds vs. the University of Calgary. Thunderbird Winter Sports Centre.
- SATURDAY, FEB. 2**
- 2:00 p.m. **MUSEUM OF ANTHROPOLOGY** presents a "touchable" exhibit for the visually handicapped. Participation by appointment. Call 228-5087.
- 8:00 p.m. **ICE HOCKEY**. UBC Thunderbirds vs. the University of Calgary. Thunderbird Winter Sports Centre.
- DUTCH-BELGIAN CARNIVAL** at International House. Phone 228-5021 for details.

