

Faculty of Medicine and Dentistry

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The Faculty of Medicine and Dentistry

Faculty Vision

To build an exceptional socially accountable Faculty through leadership in education, research and patient care and to recognized as graduating highly skilled doctors for Canada.

Faculty Mission Statement

The Faculty of Medicine and Dentistry serves the public good through excellence in medical and health professions education, research and patient care. We build partnerships essential to a high-performing academic health sciences centre.

Faculty Educational Mandate

The University of Alberta Faculty of Medicine and Dentistry is dedicated to excellence in professional health care education, graduating competent generalist physicians and health care professionals responsive to the health care needs of our communities.

Undergraduate Medical Education: www.med.ualberta.ca/programs/MD

Undergraduate Dental/Dental Hygiene Education: www.dent.ualberta.ca

Undergraduate Medical Laboratory Science Education: www.med.ualberta.ca/programs/MLS

Undergraduate Radiation Therapy Education: www.ualberta.ca/medicine/programs/radiation-therapy

Strategic Initiatives

The Faculty has defined three strategic priorities that will enable it to serve the public good:

1. Engage Communities
2. Define Excellence
3. Organize for Excellence

Values

1. **Scholarship:** To discover, interpret and disseminate new knowledge that promotes and restores health.
2. **Respect, Compassion and Caring:** To use these ideals to guide how we teach our students, care for our patients and work with our colleagues.
3. **Integrity:** To carry out our responsibilities to our patients, our students and our colleagues, maintaining the highest moral standards.
4. **Social Accountability:** To Engage all levels of the broad community in order to address their priority health concerns.
5. **Excellence:** To be dedicated to the highest standard of conduct in teaching, research and patient care
6. **Partnership:** To partner in education, research and health care for the greater good of the communities we serve.

Faculty Overview

In striving to realize its vision and to fulfill its mission, the Faculty contributes to the academic environment of the University of Alberta, City of Edmonton, and Province of Alberta. The interdependence of teaching, research, and delivery of health care not only necessitates the scholastic endeavours described herein, but also generates a major economic impact on the communities encompassed. A few facts:

Number of Departments	20
Number of Faculty Divisions	2
Number of Faculty (includes 42 FSO's)	783
Number of Administrative Professional Officers	27
Number of other (Academic Staff)	419
Number of Clinical Academic Colleagues	2063
Number of Support Staff	1438
Numbers of Students and Residents	
Medical Students	663
Medical Residents and Fellows	927
Dental Students	148
Dental Residents	4
Dental Hygiene Students	152
Medical Laboratory Science Students	85
Radiation Therapy Students	29
Graduate Students	586

In subsequent sections of this document, the departments, divisions and members of staff are listed along with summaries of the various programs offered. The Faculty warmly welcomes feedback and questions and can be contacted as follows:

Faculty of Medicine and Dentistry
2J2.00 WC Mackenzie Health Sciences Centre
University of Alberta
Edmonton, Alberta, Canada T6G 2R7
(780) 492-6621; FAX (780) 492-7303
www.med.ualberta.ca

The Professors

Teaching and Scholarship

The Faculty of Medicine and Dentistry offers a number of outstanding educational programs including the Medical Degree, the Doctor of Dental Surgery, Dental Hygiene, Medical Laboratory Science and Radiation Therapy. The Faculty also offers honors undergraduate programs in collaboration with the Faculty of Science and graduate MSc, PhD and MD/PhD programs in collaboration with the Faculty of Graduate Studies and Research.

The Faculty is now one of Canada's preeminent health sciences faculties, offering outstanding clinical care to patients, conducting world-class research and providing innovative educational programs to graduate and undergraduate students.

Faculty educators and clinicians work within one of Canada's largest health care regions and Faculty researchers attract over \$201 million annually in peer-reviewed research funding. The Faculty enjoys national and international recognition in the form of numerous Fellows of the Royal Society of Canada (FRSC) and two Fellows of the Royal Society (FRS), Canada Research Chairs, University Professor, Kaplan Laureates, Howard Hughes International Scientists and Laureates of Prix Galien and Manning awards. Graduates of the Faculty are highly regarded and go on to assume national and international leadership roles in a diverse number of health care fields.

Faculty Governance

Faculty Members

Departments/Centres/Institutes

General Information

The Faculty of Medicine of the University of Alberta was established in 1913 and until 1922 conducted a three-year undergraduate medical program in the basic medical sciences.

In 1923, a full program of clinical instruction began, and the first Doctor of Medicine (MD) degrees were awarded in 1925.

Dental education was instituted at the University of Alberta in 1917 in the School of Dentistry under the Faculty of Medicine. The first full degree program was offered in 1923, and the first class graduated in 1927. The School became the Faculty of Dentistry in 1944. Dental Auxiliary training was instituted in 1961. In 1962, the School of Dental Hygiene came into being. A program of graduate studies was formally approved in 1962.

In 1996, the Faculty of Dentistry was merged with the Faculty of Medicine to become the Faculty of Medicine and Dentistry.

University Infectious Diseases Regulation

See University Infectious Diseases Regulation.

Medical Programs

1. A fully accredited four-year program leading to the degree of Doctor of Medicine. At least two pre-medical years at university are required before admission to this program.
2. A program whereby students in the MD program who fulfil specified requirements in research may receive the degree of Doctor of Medicine "with Special Training in Research."
3. A four-year program leading to the degree of Bachelor of Science in Medical Laboratory Science, which may be entered after a preprofessional year.
4. A program whereby students in Medical Laboratory Science who fulfil specified requirements in research may receive the degree of Bachelor of Science in Medical Laboratory Science "with Honors in Research."
5. A program whereby students in the MD Program who fulfil specified requirements may be awarded the Bachelor of Medical Science degree at the conclusion of their second year in the MD program.
6. A program whereby students in the Radiation Therapy Program who fulfil specified requirements may receive the degree of Bachelor of Science in Radiation Therapy.
7. At the graduate level, programs leading to the degree of Master of Science or Doctor of Philosophy. Also programs leading to the degree of Master of Public Health (formerly, Master of Health Service Administration) or the Diploma in Health Service Administration.
8. Programs leading to accreditation by the College of Family Physicians of Canada.
9. Programs leading to eligibility for specialist qualification, in all clinical specialties, by the Royal College of Physicians and Surgeons of Canada are offered in cooperation with affiliated hospitals.
10. An extensive program of continuing medical education for physicians practising in northern Alberta.
11. A program whereby students obtain both the MD degree and PhD degree to prepare them for a career as a clinician-scientist.
See Programs of Study for details of programs of study.
12. A program of combined study which permits highly qualified students to earn both the MD and MBA degrees within five years.

Dental and Dental Hygiene Programs

1. An accredited four-year program leading to the degree of Doctor of Dental Surgery (DDS). At least two pre-dental years at university are required before admission to this program.
2. A Bachelor of Medical Science degree that students registered in the DDS program may apply for after successfully completing the first two years of the DDS program.
3. A two-year Advanced Placement program leading to a degree of Doctor of Dental Surgery (DDS). Applicants must possess a dental degree from a dental program recognized by the World Health Organization.
4. An accredited three-year program leading to the BSc (Dental Hygiene). One pre-dental hygiene year at the postsecondary level is required before admission to this program.
5. A BSc (Dental Hygiene) post-diploma degree completion program. Primary requirements are completion of ★30 postsecondary courses and completion of a University of Alberta Dental Hygiene Diploma Program.
6. MSc degree in Medical Sciences (Oral Biology, Dentistry, Dental Hygiene, Periodontology, Oral Medicine, and Orthodontics).
7. MSc and PhD degrees and certificate in Medical Sciences (Orthodontics).
8. The Department of Dentistry sponsors a wide variety of continuing dental education opportunities throughout the year through the Continuing Dental Education program. Didactic, clinical and laboratory courses are offered both on campus and occasionally at other sites within the province. Local and visiting speakers of national and international reputation provide continuing education of a high quality.
See Programs of Study for details of programs of study.

Department of Dentistry Objectives

1. To provide an academic and intellectual milieu in a university setting that facilitates all aspects of education and research in dentistry and allied health and scientific fields by
 - a. Attracting, selecting, and motivating the most qualified academic and non-academic staff; and
 - b. Creating a university environment that emphasizes the quality of life for staff and students.
2. To contribute to and incorporate the advancement of knowledge in dentistry and allied fields by doing research, publishing research papers, and communicating and interacting with
 - a. Other health sciences and other disciplines of the University to promote comprehensive health care;
 - b. The dental profession, dental auxiliaries, auxiliary-training programs, and the community to promote oral health; and
 - c. Basic and clinical science organizations and granting agencies to promote disciplinary and interdisciplinary research.
3. To deliver undergraduate, postgraduate and graduate oral health education to prepare students to meet the challenges of rapid knowledge and technology advancements, changing demographics, shifting oral health priorities and globalization.
 - a. Attract, select, and then motivate the most suitable and well-qualified students who have the ability to acquire the education and training for a professional and/or academic career;
 - b. Maintain a dentistry and dental hygiene curriculum that integrates basic medical and dental sciences, behavior and social sciences, dental clinical sciences, community and preventive dentistry, hospital dentistry, and practice management;
 - c. Incorporate recent concepts, materials, techniques, advances, and research in all areas; and reflect the existing and projected provincial, national, and international oral health needs;
 - d. Maintain an education program that allows for the smooth transition from graduation to practice and ensures that students are competent to practise efficiently and responsibly; and
 - e. Graduate students who are competent to assume roles of leadership and service in their professions and communities.
4. To provide the opportunity and stimulus for continued learning through postgraduate, graduate, research, and continuing education programs.
5. To serve as a partner with the private-practice community, community health centres and hospital clinics to address the problem of some groups having less access to care - including those with specific health care needs, low-income groups, under-represented minorities and those who live in underserved rural and urban communities.

Affiliated Hospitals and Institutions

Affiliated Hospitals

The Faculty of Medicine and Dentistry, University of Alberta, conducts its undergraduate, postgraduate and continuing clinical education activities through affiliation agreements and/or special arrangements with Alberta Health Services. The Faculty is located in the Walter C Mackenzie Health Sciences Centre (which includes the University of Alberta Hospitals), the Heritage Medical Research Centre, the Medical Sciences, Clinical Sciences, and Edmonton Clinic Health Academy buildings, Li Ka Shing Centre for Health Research Innovation, the Katz Group - Rexall Centre for Pharmacy and Research, the Zeidler Ledcor Centre and the Cross Cancer Institute and the Kaye Edmonton Clinic.

Family Medicine Rural Teaching Sites

The Department of Family Medicine engages over 33 rural communities in undergraduate and postgraduate education initiatives.

Northern Health Services Program

Through an affiliation with the Inuvik Health Board, a regular rotation of clinical faculty, residents, and elective students to Inuvik areas (Mackenzie Area Ambulatory Program) is maintained.

University of Alberta Family Medicine Centres

Ambulatory care facilities, specifically designed for undergraduate and postgraduate education in family practice, are located at the Grey Nuns and Misericordia Community Hospitals, the Northeast Community Health Centre and the Royal Alexandra Hospital. These "Family Medicine Centres" allow medical and other health science students to participate in providing comprehensive and continuing health care to a representative section of the community under the supervision of academic family physicians.

University of Alberta Surgical-Medical Research Institute

The University of Alberta Surgical-Medical Research Institute (SMRI) is a multi-user facility that provides laboratory space and equipment for research activities of research investigators and fellows in the Faculty of Medicine and Dentistry in the field of experimental surgery and medicine. Facilities include rooms suitable for operating on large and small animals, a biochemistry and histology laboratory, and the Medicine/Dentistry Electron Microscopy Unit, located in the Institute. In addition to research activities, the SMRI provides major teaching facilities for surgical residents in training and for core training (surgical skills) for postgraduate Year 1, postgraduate Year 2, graduate, and summer students. The surgical facilities are also used for running continuing medical education courses for medical and paramedical practitioners to study the latest innovations in medicine.

University of Alberta Satellite Dental Clinics

The Satellite Clinics in northern Alberta provide an educational experience for senior Dentistry and Dental Hygiene students while delivering care to patients in remote areas. This program is supported by Alberta Health Services.

Cross Cancer Institute

The Cross Cancer Institute is a tertiary cancer facility operated by Alberta Health Services (AHS) (the provincial health authority for cancer) that provides cancer services for northern Alberta and houses the Department of Oncology. The AHS and the University of Alberta conducts its cancer research and training programs through an affiliation agreement.

Tom Baker Cancer Centre

The Tom Baker Cancer Centre is a tertiary cancer facility operated by Alberta Health Services (AHS) (the provincial health authority for cancer) in Calgary that provides cancer services for southern Alberta and houses the Department of Oncology. The AHS and the University of Calgary conducts its cancer research and training programs through an affiliation agreement.

Registration and Licensing

DDS Degree

The Department of Dentistry of the University is accredited by the Commission on Dental Accreditation of Canada.

Regulations regarding the practice of dentistry in any other province in Canada may be obtained by writing to the dental registrar of that province. Contact information is available from the Canadian Dental Association (www.cda-adc.ca).

Senior students of dental programs approved by the Commission on Dental Accreditation of Canada are eligible to write the National Dental Examining Board examinations during their final year. Successful completion of these examinations is required for licensure.

Graduates are also eligible to write licencing examinations in most of the states in the United States and the examinations of the National Board of Dental Examiners of the American Dental Association.

The Doctor of Dental Surgery (DDS) degree and the Doctor of Dental Medicine (DMD) degree (granted by some Canadian and United States universities) are equivalent degrees.

Bachelor of Science (Dental Hygiene)

A diploma/Bachelor of Science (Dental Hygiene Specialization) degree does not, in itself, confer the right to practice. A dental hygienist desiring to practice dental hygiene in Canada should consult the appropriate provincial licensing body. Contact information is available from the Canadian Dental Hygienists Association (www.cdha.ca).

Registration to Practice

The Registrar of the Alberta Dental Association and College may refuse to issue a license and/or registration certificate to practise dentistry to any applicant with a criminal record. Likewise, the College of Registered Dental Hygienists of Alberta (CRDHA) may refuse to issue a license and/or registration certificate to practice dental hygiene to any applicant with a criminal record.

BSc in Radiation Therapy

The Canadian Association of Medical Radiation Technologists (CAMRT) is the organization that provides the national certification examination and competency profile. Students are eligible to access the CAMRT examination upon completion of all program requirements. Under the Alberta Health Professions Act, radiation therapists must be licensed by the regulatory college, Alberta College of Medical Diagnostic and Therapeutic Technologists (ACMDTT) to practice in Alberta. The ACMDTT endorses the CAMRT national examination as the certifying examination.

After successful completion of the CAMRT national certification examination, graduates are eligible to access the American Registry of Radiologic Technologists' (ARRT) certification examination.

Finance

DDS Degree

Tuition fees for the program can be found in Fees Payment Guide.

Note: The figures are approximate for 2019-2020 and do not include GST; figures are subject to change without notice.

Additional Costs for DDS Students	Year 1	Year 2
Loupes	2,500	0
Equipment & Instrumentation Rental	9,100	11,300
Dental Students Association	75	75

	Year 3	Year 4
Equipment Rental	22,500	18,300
Dental Students Association	75	75
National Dental Examining Board (refer to www.ndeb.ca)		N/A

Bachelor of Science (Dental Hygiene)

Tuition fees for the program can be found in Fees Payment Guide.

Note: All costs noted below are approximate for 2019-2020 and do not include GST; costs are subject to change and can be affected by economic conditions such as exchange rates. Students pay the fees in effect at the time of registration.

Additional Costs for Students	Year 2	Year 3	Year 4
Textbooks (estimate)	1,110	700	200
Equipment & Instrumentation Rental	2,855	5,955	6,955
Dental Students Association	75	75	75
Professional Exam Fee (refer to www.ndhcb.ca)	N/A	N/A	675

External Practicum Experiences: Students are responsible for their own transportation to and from practicum experiences scheduled in the Edmonton area.

Bachelor of Science (Dental Hygiene) Post Diploma Degree Completion Program

Additional Costs for Students

Books	200
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Advanced Placement Program (DDS)

Tuition fees for the program can be found in Fees Payment Guide.

Note: The figures are approximate for 2019-2020 and do not include GST; figures are subject to change without notice.

Additional Costs for Students	Year 1	Year 2
Loupes	2,500	0
Equipment & Instrumentation Rental	22,500	18,300
Dental Students Association	75	75
National Dental Examining Board (refer to www.ndeb.ca)		N/A

MD Degree

Information on fees charged to students in the MD and MSc programs is given in Registration and Fees. In addition, medical students spend approximately \$2,000 each year for books, supplies and instruments. Fourth-year medical students pay an examination fee of approximately \$700 to the Medical Council of Canada in January of their final year.

All medical students are encouraged to take the following courses: First Aid, Cardiopulmonary Resuscitation, and Advanced Cardiac Life Support. Students are responsible for the corresponding fees.

Some remuneration is presently given to final year MD students by Alberta Health, Government of Alberta.

Details of scholarships and other financial assistance for medical students are available in the Awards section of this Calendar or by contacting the MD Program Office, Admissions and Undergraduate Medical Education, 1-002 Katz Group Centre for Pharmacy and Health Research; phone (780) 492-6350.

BSc in Radiation Therapy

Tuition fees for the program can be found in Fees Payment Guide. Figures are subject to change without notice.

National Certification Examination fees are payable to the Canadian Association of Medical Radiation Technologists at www.camrt.ca/certification/international/. It is mandatory that all students are student members of the Alberta College of Medical Diagnostic and Therapeutic Technologists (ACMDTT) and must pay the student membership fee at www.acmdtt.com/Registration/StudentApplicants.aspx.

Medical and Dental Society Memberships

The Medical Students' Association (MSA) is the officially recognized organization of medical students. It provides social, informative, and cultural activities for medical students, and sponsors several important community projects. It is authorized to collect a membership fee from each student. The Association provides the following annual awards: the Outstanding Teacher Awards presented to one teacher for excellence as an educator in each year of the program; the Shaner Award presented to a graduating student for exceptional contributions to the work of the Association; the Mackenzie Award presented to a graduating student judged most proficient in clinical skills; and the Fried Award presented to the student intern who has demonstrated exceptional clinical aptitudes in Paediatrics. Some projects sponsored by the MSA and run by medical students are the University of Alberta branch of Shinerama, a program dedicated to raising money for Cystic Fibrosis research; a medical student choir; and *IATROS*, a student medical journal dedicated to publishing student articles and increasing communication between current students and alumni. Many social activities and sports events are also planned through the year.

The Medical Alumni Association is an organization of all graduates in Medicine from the University of Alberta. The Association takes an active interest in the Faculty and provides a limited loan fund for undergraduate and graduate students. In addition, the Association participates in a number of awards to students and, from time to time, finances specific projects in the Faculty. The Association meets annually in conjunction with the Alberta Medical Association meeting.

The Dental Students' Association (DSA) is registered with the Students' Union Student Groups. The DSA represents all Dentistry and Dental Hygiene students at the University. It is the DSA's responsibility to organize and communicate involvement in a number of activities by students in the Department of Dentistry. Involvement in activities of a social and professional nature include participation in activities with the greater student body on campus, inter/intra-departmental activities, and community involvement. The DSA fosters professional relations with the greater community through involvement in fund raising for a number of charitable organizations, and by providing resources and information to the community. Annual involvement in health awareness initiatives allows students to provide information and dental products to various groups, including students on campus during Health Awareness Week.

The DSA coordinates a number of formal events welcoming students to their respective professions and encouraging involvement in their professional associations. A number of less formal social events and sporting activities, including the annual curling bonspiel, are also scheduled throughout the year. The DSA works with the Faculty to present concerns and facilitate change, and together, provide students the ability to make contributions to create an enjoyable and successful program.

The Dental Alumni Association is an organization of all graduates in Dentistry from the University of Alberta. The Association takes an active interest in the Department of Dentistry of the Faculty of Medicine and Dentistry and participates in a number of awards to dental students. In addition, the Association provides limited funds to finance specific projects in the Department and honors convocating students and graduates of the silver anniversary class.

The Dental Hygiene Alumni chapter is an organization of all graduates in the Dental Hygiene program from the University of Alberta. The alumni chapter hosts special events and other educational sessions for alumni and graduating students.

Admission and Academic Regulations

Admission

See Admission to Undergraduate Programs and General Admission Requirements for general admission requirements to the University. See Admission Requirements by Faculty for specific admission information for the DDS, Dental Hygiene, MD, BSc in Medical Laboratory Science and BSc in Radiation Therapy programs.

Combined Program for the Degrees of MD and PhD

Highly qualified students wanting to pursue a career of teaching and research in basic medical science or clinical medicine may enrol in a program of approximately six to eight years leading to the acquisition of both an MD and a PhD degree.

Students in the first year of the MD program may apply to the Combined Program. If acceptable to the appropriate department, to the Faculty of Medicine and Dentistry, and to the Faculty of Graduate Studies and Research, the student is admitted to the PhD program. Normally, on completion of two years of the MD program, the student registers in the PhD program. The time needed to complete the requirements for the PhD depends on the applicant's previous training and the nature of the research. On completion of the PhD program, the student reenters the Faculty of Medicine and Dentistry and completes the requirements for the MD degree.

Students interested in such a program may obtain further information from the Office of Research, Faculty of Medicine and Dentistry, 2-13 Heritage Medical Research Centre.

Combined Program for the Degrees of MD/MBA

The Faculty of Medicine and Dentistry and the Faculty of Business offer a program of combined study which permits highly qualified students to earn both the MD and MBA degrees in five years.

Each student must apply separately to the Faculty of Medicine and Dentistry (for admission into the MD program) and at any time in the first two years of the MD program, may apply to the Faculty of Graduate Studies and Research (for admission into the MBA program).

Academic Standing and Graduation

DDS Degree

The program leading to the DDS degree is conducted in four years (1, 2, 3 and 4) under the direction of the Faculty committees (see DDS Degree.)

1. No credit will be granted for courses completed in preprofessional years and no course exemptions will be allowed.
2. The Dean, or Supervisor acting on behalf of the Dean, may immediately deny assignment of a student to, withdraw a student from, or vary terms, conditions or site of practicum/clinical placement if the Dean or Supervisor has reasonable grounds to believe that this is necessary in order to protect the Public Interest. (See Practicum Intervention Policy).
3. The Council of the Faculty of Medicine and Dentistry approves the principle that the means of assessing a student's progress and determining a student's grades may vary from one course to another in accordance with the nature of the course. Factors other than examination results may be used to a variable extent by instructors in determining grades.
4. Students are advised at the beginning of each course and year of the procedures to be used in their evaluation, the determination and reporting of their grades, and the standards required by the Faculty. Students are also advised of the procedures for appeal established with the Faculty and the University.

5. On their official transcripts students are not ranked or assigned a numeric grade, but are designated as having passed (received credit) or failed a course.

6. Reexaminations and Reassessment

a. Reexaminations

- i. Students are allowed reexamination only in courses or didactic components of courses that are failed.
- ii. For any failed course or didactic component of a course, the following reexamination policies apply:
 - The Associate Chair, Academic may allow reexamination of a course or didactic component of a course only where the Final Examination is a 40% or greater component of the course grade.
 - The Associate Chair, Academic may allow reexamination of a didactic component of a course if a student fails the didactic component of a clinical or laboratory course but passes the clinical or laboratory portion. Reexamination is not permitted in courses that are entirely clinical or laboratory or in clinical or laboratory components of courses that include both didactic and clinical or laboratory components.
 - If a reexamination is approved, satisfactory completion of a remedial program may be required by the Associate Chair, Academic before the student is permitted to take the reexamination.
 - The reexamination mark will replace the original final exam mark. For the course to be passed, the new grade with the new reexamination final exam mark, must equal or surpass the required passing grade for the course.
 - Students may be granted rewrites at the end of each term for failed courses within that term that meet the above requirements, but not exceeding more than two overall in an academic year. The Academic Standing Committee would be notified of all reexaminations granted.
 - Students with more than two failed courses in the academic year will not be allowed further reexamination privileges and may be assigned Conditional Standing and placed on probation. (see Conditional Standing and Probation)
 - A student who does not take a reexamination within the period of time prescribed by the Faculty will remain with a failed course, and a failed year and will not be eligible for promotion or graduation. (See Conditional Standing and Probation)

b. Reassessment

- i. Students are allowed reassessment only in courses or course components that are failed.
- ii. For any failed course or course component, the following reassessment policies apply:

YEAR 1 and YEAR 2

- The Associate Chair, Academic may allow reassessment of any failed course or component of a course as follows: didactic components where the final examination is less than 40% course weight, laboratory, and/or clinical components.
- If a reassessment is approved, satisfactory completion of a remedial program may be required by the Associate Chair, Academic before the student is permitted to take the reassessment.
- If reassessment is approved for a failed course or course component, the student will be informed of the required reassessment activities, the expected level of achievement to successfully complete them and the timelines for completion.
- Students with more than two failed courses in the academic year will not be allowed further reassessment privileges and may be assigned Conditional Standing and placed on probation. (See Conditional Standing and Probation)
- If reassessment is successfully completed, the grade attained for the course will be the established pass score for the course.

YEAR 3 and YEAR 4

- No reassessment is permitted for the year-long clinical courses DDS 530 (3rd yr) and DDS 540 (4th yr).
- The Associate Chair, Academic may allow reassessment of DDS 531 (3rd yr clinical skills) and DDS 542 (4th yr electives) courses or their course components if this is the only failed course or course component in that academic year.
- If a reassessment is approved, satisfactory completion of a remedial program may be required by the Associate Chair, Academic before the student is permitted to take the reassessment.
- If reassessment is approved for a failed course or course component, the student will be informed of the required reassessment activities, the expected level of achievement to successfully complete them and the timelines for completion.

- If reassessment is successfully completed, the grade attained for the course will be the established pass score for the course.
 - A student who does not complete required reassessment within the period of time prescribed by the Faculty will remain with a failed course, and a failed year and will not be eligible for promotion or graduation. (see Conditional Standing and Probation)
7. Conditional Standing and Probation
- a. Conditional Standing is assigned to a student who at the end of the year, fails to achieve a pass in all courses.
 - b. A student assigned Conditional Standing will be placed on academic probation and will have academic progress regularly reviewed and reported upon at the end of each term.
 - c. YEAR 1 and YEAR 2
 - A student who fails more than two courses within a year, or unsuccessfully completes a failed course through reexamination or reassessment, will be assigned Conditional Standing and will be placed on probation and given the opportunity to enroll in a repeat of the year.
 - To clear Conditional Standing and probation and to qualify for promotion, the student must achieve Satisfactory Standing in all courses in the probationary year. Students who fail to do so will be Required to Withdraw. Any student in a probationary year who fails a course will be required to withdraw immediately and subsequent registration will be cancelled.
 - d. YEAR 3 and YEAR 4
 - A student who fails to achieve a pass in a year-long clinical course (DDS 530, DDS 540) or to successfully complete reassessment of a failed course (DDS 531, DDS 542) during either third or fourth year will be assigned Conditional Standing.
 - A student who has been assigned Conditional Standing will be reviewed by Academic Standing Committee and either Required to Withdraw from the program or placed on Probation. A student placed on Probation will be offered the opportunity to enroll in a repeat of the year.
 - e. To clear Conditional Standing and Probation and to qualify for promotion or graduation, the student must achieve Satisfactory Standing in the probationary (repeat) year at assessment checkpoints at the end of each term during that year. Students who fail to perform satisfactorily at any of those assessment points will be Required to Withdraw immediately and subsequent registration will be cancelled.
 - f. Only one year of probation is allowed while registered in the DDS program.
8. Academic Standing: Decisions regarding academic standing and promotion to the next year or graduation are made by the Faculty of Medicine and Dentistry Academic Standing and Promotion Committee.
- a. Each student's academic standing will normally be assessed at the end of the regular academic year. Students with Conditional Standing who are on probation will be assessed at the end of each term.
 - b. No student may proceed to any subsequent year of the DDS program or graduate unless they have passed all courses for that academic year.
 - c. For promotion and graduation, students need to adhere to and meet the requirements as stated in the department's current Attendance Policy.
 - d. Awards distribution will be based on a full course load only and utilizing original not reexamination or reassessment grades in calculation of the GPA.
 - e. Students are advised of Faculty and University appeals processes at the beginning of each academic year.
9. Regulations Concerning Continuation of Fourth Year:
- a. Special Category Continuing Fourth Year Student: a student who fails to meet all clinical competency requirements or attendance policy requirements in the final-year of the program may be designated a Special Category Continuing student. In order to be considered as a Special Category Continuing student in fourth-year Dentistry, the student must
 - i. have clinical deficiencies in no more than two clinical disciplines and have been advised that the deficiencies could be corrected within one term of instruction; and
 - ii. have successfully completed all other assessments in the DDS program.
8. Time Limit For Completion of Degree
- a. Students must complete their degree requirements within six academic years from the time of their initial admission. This time limit includes all time during which a student is not in attendance, either for personal reasons (see Voluntary Temporary Withdrawal) or as a result of suspension or academic probation. Any failure or inability to complete the program within six years is cause for Requirement to Withdraw from the program.

9. Course Load:
 - a. Students in the DDS program are required to participate in a full course load due to the sequential and integrated learning expectations of the professional degree program. As necessary prerequisite material is covered in previous courses, all preceding courses are considered as prerequisite courses for the next course(s) in sequence.
10. Voluntary Temporary Withdrawal: A student wishing to temporarily withdraw registration from the DDS program is required to make written application to the Associate Chair, Academic (Dentistry), stating the reasons for withdrawal and the intended period of withdrawal. Readmission to the DDS program following voluntary temporary withdrawal is based on the following:
 - a. a review, by the Associate Chair, Academic, of the reasons for withdrawal and of the student's academic record.
 - b. availability of a place, within quota, in the class to which the student seeks readmission. Priority is assigned in the following order:
 - i. students who have met normal promotion requirements
 - ii. Associate Chair, Academic-approved repeating students and students returning after voluntary withdrawal, in order of academic standing
 - c. The length of time the student interrupts studies leading to the DDS degree must not exceed two years, either at one time or cumulatively.
11. Withdrawal from Program: A student wishing to withdraw permanently from the DDS program with no intention to return to the program is encouraged to make written application to the Associate Chair, (Dentistry), stating the reason for withdrawal from program.
12. Faculty Advisor: At the discretion of the Faculty, an advisor may be assigned to students having difficulty meeting promotion requirements. The method of assignment and role of the advisor is determined by the Faculty and/or Department.
13. All students registered in the Dentistry program are permitted in the practice of dentistry within the confines of the formal dental curriculum under the Province of Alberta Health Professions Act: Dentists Profession Regulation. As noted in the Code of Student Behaviour, students in the DDS program are required to adhere to the professional code of ethics of the Alberta Dental Association and College. (Amendments to the Code of Student Behaviour occur throughout the year. The official version of the Code of Student Behaviour, as amended from time to time is housed on the University Governance website at www.governance.ualberta.ca.)
14. **Medical Testing and Immunization Requirements:** See University Infectious Diseases Regulation
15. Certification in CPR (Cardiopulmonary Resuscitation) at the Basic Rescuer Level is required to be current during each year of the program. Opportunities for this certification and annual maintenance of that standing may be provided during each year of the program.
16. Technical Standards Policy defines the necessary knowledge, skills, professional behaviours, and attitudes required of students. Students must be able to meet the technical standards throughout their program.

DDS Advanced Placement Program

The program leading to the DDS Advanced Placement is conducted in a minimum of two years (see DDS Advanced Placement Program Years 3 and 4 of the DDS Program).

1. No credit will be granted for courses completed prior to admission and no course exemptions will be allowed.
2. The Dean, or Supervisor acting on behalf of the Dean, may immediately deny assignment of a student to, withdraw a student from, or vary terms, conditions or site of practicum/clinical placement if the Dean or Supervisor has reasonable grounds to believe that this is necessary in order to protect the Public Interest. (See Practicum Intervention Policy)
3. The Council of the Faculty of Medicine and Dentistry approves the principle that the means of assessing a student's progress and determining a student's grades may vary from one course to another in accordance with the nature of the course. Factors other than examination results may be used to a variable extent by instructors in determining grades.
4. Students are advised at the beginning of each course and year of the procedures to be used in their evaluation, the determination and reporting of their grades, and the standards required by the Faculty. Students are also advised of the procedures for appeal established with the Faculty and the University. Students must satisfactorily complete all components of all courses.
5. On their official transcripts students are not ranked or assigned a numeric grade, but are designated as having passed (received credit) or failed a course.
6. **Reexaminations**
 - a. Students are allowed reexamination privileges only in courses that are failed.

- b. The Associate Chair, Academic must approve reexaminations for students who fail two or fewer courses or components of DDS 545, DDS 565. Students with more than two (2) failed courses or components of DDS 545, DDS 565 in any academic year will not be allowed reexamination privileges.
 - c. The Associate Chair, Academic may allow reexamination of a didactic component of a course if a student fails the didactic component of a clinical or laboratory course but passes the clinical or laboratory portion. Reexamination is not permitted in courses that are entirely clinical or laboratory, or in clinical or laboratory components of courses that include both didactic and clinical or laboratory components.
 - d. If a reexamination is approved, satisfactory completion of a remedial program may be required by the Associate Chair, Academic before the student is permitted to take the reexamination.
 - e. Students may be granted rewrites at the end of each term for failed courses within that term that meet the above requirements, but not exceeding more than two overall in an academic year. The Academic Standing Committee would be notified of all re-examinations granted.
 - f. A student who does not take a reexamination within the period of time prescribed by the Faculty will not be allowed to continue in the program.
 - g. The reexamination mark (as in the case of a deferred mark) will replace the original final exam mark.
 - h. See Reexaminations for further information regarding when reexaminations are not permitted.
7. **Academic Standing:** Final decisions regarding academic standing and promotion to the next year or graduation are made by the Faculty of Medicine and Dentistry Academic Standing and Promotion Committee.
 - a. No student may proceed to next year of the Program and will be required to withdraw unless they have passed all courses for that academic year.
 - b. A student who fails more than two courses in any year of the program will be required to withdraw from the program.
 - c. For promotion and graduation, students need to adhere to and meet the requirements as stated in the department's Attendance Policy.
 - d. Awards distribution will be based on a full course load only and utilizing original not remedial grades in calculation of the GPA.
 8. **Regulations Concerning Repetition of a Year because of Academic Failure:** Students in the DDS Advanced Placement Program will not be permitted to repeat a year.
 9. **Voluntary Withdrawal:** A student in the DDS Advanced Placement Program who chooses to withdraw, forfeits the position and will not be readmitted.
 10. **Faculty Advisor:** At the discretion of the Faculty, an advisor may be assigned to students having difficulty meeting promotion requirements. The method of assignment and role of the advisor is determined by the Faculty and/or Department.
 11. All students registered in the DDS Advanced Placement Program are required by provincial legislation to be registered in the Educational Register of the Alberta Dental Association and College. This registration permits the practice of dentistry within the confines of the formal dental curriculum. Students in the program are required to adhere to the professional code of ethics of the Alberta Dental Association and College (Amendments to the Code of Student Behaviour occur throughout the year. The official version of the Code of Student Behaviour, as amended from time to time is housed on the University Governance website at www.governance.ualberta.ca).
 12. **Medical Testing and Immunization Requirements:** See University Infectious Diseases Regulation
 13. Certification in CPR (Cardiopulmonary Resuscitation) at the Basic Rescuer Level is required.

Bachelor of Science (Dental Hygiene)

The following applies to students in the BSc (Dental Hygiene) program overall:

1. Students entering the Dental Hygiene program may be granted credit for courses completed that are deemed by the Program Director, in consultation with the course coordinator and the Chair of the Department Academic Standing Committee, to be demonstrably equivalent to courses for which credit is being sought. Students carrying an academic load reduced by ★6 or more from the full course load of their academic year will not be eligible for awards.
2. **Medical Testing and Immunization Requirements:** (See University Infectious Diseases Regulation).
3. Certification in CPR (Cardiopulmonary Resuscitation) at the Health Care Provider Level is required and provided by the Program.
4. The Associate Dean/Department Chair, or Supervisor acting on behalf of the Associate Dean, may immediately deny assignment of a student to, withdraw a student from, or vary terms, conditions or site of practicum/clinical placement if the Associate Dean or Supervisor has reasonable grounds to believe that this is necessary in order to protect the Public Interest. (See Practicum Intervention Policy)

5. The Council of the Faculty of Medicine and Dentistry approves the principle that the means of assessing a student's progress and determining a student's grades may vary from one course to another in accordance with the nature of the course. Students are advised at the beginning of each course and year of the procedures to be used in their evaluation, the determination and reporting of their grades, and the standards required by the Faculty. Students are also advised of the procedures for appeal established within the Faculty and the University. Students must satisfactorily complete all components of all courses.
 - a. Students are held accountable to the Code of Student Behaviour and should be familiar with it. (See Professional Standards for Students in the Faculty of Medicine and Dentistry).
6. Voluntary Temporary Withdrawal: A student wishing to temporarily withdraw registration in the Bachelor of Science (Dental Hygiene) program is required to make written application to the Associate Chair & Director, Dental Hygiene Program, stating the reasons for withdrawal. Re-admission to the Bachelor of Science (Dental Hygiene) program following voluntary temporary withdrawal will be based on the following:
 - a. Review, by the Associate Chair & Director, Dental Hygiene Program of the reasons for withdrawal and the student's academic record;
 - b. Availability of a place, within quota, in the class to which the student is seeking readmission. Priority will be assigned in the following order:
 - i. Students who have met normal promotion requirements.
 - ii. Faculty approved repeating students, and students returning after voluntary withdrawal, in order of academic standing.
 - c. The length of time the student interrupts studies leading to the Bachelor of Science (Dental Hygiene) program must not exceed two years, either at one time or cumulatively.
7. Withdrawal from Program: A student wishing to withdraw permanently from the Dental Hygiene program with no intention to return to the program is encouraged to make written application to the Associate Chair & Director, Dental Hygiene Program, stating the reason for withdrawal from program.
8. Advisor: At the discretion of the Dental Hygiene Program, an advisor may be assigned to students having difficulty meeting promotion requirements. The method of assignment and the role of the advisor is determined by the Dental Hygiene Program.

Academic Standing, Promotion & Graduation

1. Recommendations for promotion and graduation are based on passing grades in each subject and a minimum GPA of 2.0.
2. The notation of "With Distinction" is awarded to a graduating student registered in a minimum of ★24 in the BSc (Dental Hygiene) program who has obtained an average GPA of 3.5 or higher in the last two years of the program with a minimum GPA of 3.3 in both years, and no failing grades over the entire program
3. Students in the Dental Hygiene program are not permitted to repeat any year, except for exceptional cases as determined by the Department of Dentistry Academic Standing Committee. Repeating students are considered for awards, if taking a full course load.
4. A failed student who repeats the failed year may retain credit for passed courses, other than laboratory and clinical courses, only at the discretion of the Faculty of Medicine and Dentistry Academic Standing and Promotion Committee acting on the advice of the Dental Hygiene Program. During the repeated year, a grade of at least C+ is required for Dental Hygiene courses.
5. A Special Category repeating dental hygiene student;
 - a. has achieved a minimum GPA of 2.7 in the year requiring repetition;
 - b. has clinical/practicum deficiencies in no more than one clinical course and is advised that the deficiency could be corrected within a four-month period of instruction; and
 - c. has successfully completed all written examinations in the Dental Hygiene program.
6. **Reexaminations:**
 - a. Students are allowed reexamination privileges only in courses that are failed.
 - b. The Department of Dentistry Academic Standing Committee and the Faculty Academic Standing and Promotion Committee must approve reexaminations for students who fail one or two courses. Students with more than two failed courses in any academic year will not be allowed reexamination privileges.
 - c. Students must achieve a GPA of 2.0 in the academic year, inclusive of the failed course, in order to be considered for reexamination.
 - d. Students are advised that it may not be possible to make a ruling regarding remediation or reexamination until all grades for the year are received and recorded.
 - e. If a reexamination is approved, satisfactory completion of a remedial program may be required by the Faculty of Medicine and Dentistry Academic Standing and Promotion Committee before the student is permitted to take the reexamination.

- f. For fall term courses, reexamination must be completed by the end of February Reading Week. For two-term courses and winter term courses, reexamination must be completed by June 30. Students in the Post Diploma Degree Completion Programs write reexaminations after the applicable term. Students are advised to consult the Dental Hygiene Program Director.
- g. The weight of reexamination is at least that of the final examination, but may be more (at the discretion of the Program Director in consultation with the course coordinators).
- h. The reexamination mark (as in the case of a deferred mark) will replace the original final exam mark.
- i. Any student who, after reexamination and/or evaluation fails to meet promotion/graduation requirements, is deemed to have failed the year.
- j. A student who does not take a reexamination within the time period prescribed by the Faculty will not be allowed to continue in the program.
- k. For students registered the BSc Dental Hygiene program, the total reexamination privileges will not exceed five reexaminations or a maximum of ★20 in total over all three years of the program.
- l. The Department of Dentistry Academic Standing Committee may allow reexamination of the didactic component of a course if a student fails the didactic component of a clinical course but passes the clinical portion. Reexamination is not permitted in courses that are entirely clinical or in clinical components of courses that include both didactic and clinical components.
- m. A student repeating a year is not allowed reexamination privileges in that year of the program.

MD Program

The program leading to the MD degree is conducted in four Years (1, 2, 3 and 4), under the direction of the Faculty committees. (See MD Degree)

1. No credit will be granted for courses completed in preprofessional years and no course exemptions will be allowed.
2. The Dean, or Supervisor acting on behalf of the Dean, may immediately deny assignment of a student to, withdraw a student from, or vary terms, conditions or site of practicum/clinical placement if the Dean or Supervisor has reasonable grounds to believe that this is necessary in order to protect the Public Interest. (See Practicum Intervention Policy)
3. The Council of the Faculty of Medicine and Dentistry approves the principle that the means of assessing a student's progress and determining a student's grades may vary from one course to another according to the nature of the course. Factors other than examination results may be used to a variable extent by instructors in determining grades, but students are informed at the beginning of the course how grades are to be determined.
4. Students are advised at the beginning of each course, and year of the attendance requirements of the procedures to be used in their evaluation, the determination and reporting of their grades, and the standards required by the Faculty and the University. Students who are absent for more than two days in any course in which attendance is compulsory will not be given credit for that course and will be asked to repeat the course. Students must satisfactorily complete all components of a course to receive a passing grade, irrespective of the overall mark. Students must satisfactorily complete all components of all courses.
 - a. All students enrolled in the MD program are bound by and shall comply with the Professional Code of Ethics governing the profession and practice of medicine. The Professional Code of Ethics refers to all relevant professional codes and practice standards for medical doctors including:
 - i. Code of Applicant Behaviour
 - ii. Canadian Medical Association Code of Ethics
 - iii. College of Physicians and Surgeons of Alberta Code of Conduct
 - iv. Professional Standards for Students in the Faculty of Medicine and Dentistry
 - v. Student Pledge of Conduct
 - vi. Faculty Code of Conduct
 - b. Students are held accountable to the Code of Student Behaviour and should be familiar with it. (See Professional Standards for Students in the Faculty of Medicine and Dentistry)
 - c. Thereinafter, any reference to students' academic performance will encompass the adherence to the Professional Code of Ethics.
5. Comprehensive Examinations:
 - a. At the end of second year, students take a preclinical comprehensive examination (denoted as MED 520) covering material presented in the first two years of the program.

- b. After completing year three requirements, students must successfully complete an objective structured clinical examination (OSCE) as the first component of MED 540, comprehensive examination. This first exam covers material presented in the first three years of the program. At the end of fourth year, students will then be required to successfully complete the second component of MED 540 comprehensive examination by completing a knowledge-based assessment. This exam will cover material presented in all four years of the program. All other program requirements must be successfully completed in order to be eligible to take the second examination knowledge-based assessment.
 - c. Students must pass the above comprehensive examination(s) before being promoted to the next academic year (MED 520) or allowed to graduate (MED 540).
6. Students are not ranked or assigned a numeric grade, but are designated as having passed (received credit) or failed a course.
7. **Reexaminations**
 - a. A student will not be granted reexamination privileges if the student has passed the course/clerkship.
 - b. A student repeating a year is not allowed reexamination privileges in that year.
 - c. Students are advised that reexamination may not be granted until all grades for the academic year are received and recorded.
 - d. If the student has not yet been granted a previous reexamination in the current academic year, reexamination privilege may be granted at the discretion of the Course/Clerkship Coordinator in consultation with the Associate Dean, MD Program.
 - e. If reexamination is not granted by the Course/Clerkship Coordinator, the student will be brought to the appropriate Academic Standing Committee where reexamination may be considered.
 - f. If the student has already been granted reexamination privileges in other courses/clerkships in the current academic year, reexamination may only be granted by the appropriate Academic Standing Committee after student performance from the entire academic year is considered.
 - g. If a reexamination is granted, the reexamination mark will replace the original final exam mark (as in the case of a deferred mark).
 - h. If a reexamination is granted, satisfactory completion of a remedial program may be required before the student is permitted to take the reexamination.
 - i. Reexamination of MED 540 Comprehensive Examination: Students who fail this comprehensive examination may be granted a reexamination. Only the Associate Dean, MD Program may grant this reexamination.
 - j. A student who does not take a reexamination within the period of time prescribed by the Faculty will not be allowed to continue in the program.
 - k. A student who fails reexamination will be deemed to have failed the course and will be referred to the appropriate Academic Standing Committee.
8. Academic Standing: Final decisions regarding academic standing and promotion to the next year of graduation are made by the Faculty Academic Standing and Promotion Committee with recommendations from the Academic Standing Committees.
 - a. No student may proceed to any subsequent year of the medical program and will be required to withdraw unless they have passed all courses for that academic year.
 - b. Students who do not pass all Year 3 and 4 courses, except MED 540 will not be allowed to write the comprehensive exam and will be required to withdraw.
9. Regulations Concerning Repetition of a year because of Academic Failure:
 - a. No student will be allowed to repeat Year 1 of the MD program. At the discretion of the Dean, students in Year 2, 3 or 4 may be allowed to repeat a failed year.
 - b. A student repeating a year is not allowed reexamination privileges in that year of the program.
 - c. No student is allowed to repeat more than one year of the MD program.
10. Voluntary Withdrawal: A student wishing to temporarily withdraw registration from the MD program is required to make written application to the Associate Dean, MD program, stating the reasons for withdrawal and the intended period of absence. Readmission to the MD Program following voluntary withdrawal will be based on the following:
 - a. review, by the Faculty, of the reasons for withdrawal and of the student's academic record;
 - b. availability of a place, within quota, in the class to which the student seeks readmission. Priority is assigned in the following order:
 - i. students who have met normal promotion requirements.
 - ii. Faculty approved repeating students and students returning after voluntary withdrawal, in order of academic standing.
 - c. The length of time the student interrupts studies leading to the MD degree must not exceed two years in total.

11. Faculty Advisor: At the discretion of the Faculty, an advisor may be assigned to students having difficulty meeting promotion requirements. The method of assignment and role of the advisor shall be determined by the Faculty.
12. All students registered in the MD program are required by provincial legislation to be registered in the Educational Register of the Alberta College of Physicians and Surgeons. This registration permits the practice of medicine within the confines of the formal medicine curriculum. Students in the MD program are required to adhere to the professional code of ethics of the Alberta College of Physicians and Surgeons. (Amendments to the Code of Student Behaviour occur throughout the year. The official version of the Code of Student Behaviour, as amended from time to time is housed on the University Governance website at www.governance.ualberta.ca.)
13. **Medical Testing and Immunization Requirements:** See University Infectious Diseases Regulation

BSc Program in Medical Laboratory Science

Academic Standings and Graduation

All students enrolled in the BSc MLS program are bound by and shall comply with the Professional Code of Ethics governing the profession. The Professional Code of Ethics refers to all relevant professional codes and practice standards for medical laboratory technology including:

- Code of Applicant Behaviour
- Code of Student Behaviour
- College of Medical Laboratory Technologists of Alberta Code of Ethics
- College of Medical Laboratory Technologists of Alberta Standards of Practice
- Canadian Society for Medical Laboratory Science Code of Ethics
- Professional Standards for Students in the Faculty of Medicine and Dentistry
- Faculty Code of Conduct

The Dean, or Supervisor acting on behalf of the Dean, may immediately deny assignment of a student to, withdraw a student from, or vary terms, conditions or site of practicum/clinical placement if the Dean or Supervisor has reasonable grounds to believe that this is necessary in order to protect the Public Interest. (See Practicum Intervention Policy.)

Academic Standing

Final decisions regarding academic standing and promotion to the next year or graduation are made by the Faculty of Medicine and Dentistry Academic Standings and Promotion Committee based on recommendations of the Medical Laboratory Science Academic Standing Committee.

Progression in the program is term by term.

Final approval of academic standings is conducted at the end the academic year, with the exception of "Unsatisfactory Standing". In any term if a student falls under the category "Unsatisfactory Standing" their academic standing will be assessed immediately.

1. First Class Standing:

Awarded to students with a GPA of not less than 3.5 while enrolled in a normal academic course load

2. Satisfactory Standing:

Promotion in the Medical Laboratory Science program depends on passing grades in all subjects of the previous year with a minimum GPA of 2.0, as well as the following requirements:

Phase I

Each laboratory instructor assesses the competence in communication, comprehension, and technical skills of each student several times throughout the academic year. These assessments are documented as a written evaluation that the student is asked to sign. At the end of the Phase, the instructors assign each student a pass or probationary rating based on these evaluations. Students with a GPA of 2.0 who have a majority of unsatisfactory technical ratings are permitted to proceed into Phase II on probation. Students in Phase II who are on probation must withdraw if they receive an unsatisfactory technical rating in any one course. Students entering Phase II with a majority of pass ratings from all the Phase I Medical Laboratory Science courses are assessed as having satisfactory standing.

Phase II

For those Medical Laboratory Science courses with both technical and academic demands, the student must successfully complete the requirements of both components to receive a passing grade.

Each student's competence in communication skills, comprehension of material, technical skills and professional behaviour will be assessed according to the Competency Based Objectives (CBOs) for each Medical Laboratory Science course. To pass each course, students must demonstrate competence in each CBO as outlined in the course manual. Students who do not achieve this level of competence in any one course will be required to satisfactorily fulfill specified course or performance competence standards within a given period of time. Students requiring additional training time in more than one course may be required to withdraw from the program. Students who have entered Phase II on probation (see Phase I) or Academic Warning (see below) will not normally be allowed additional remedial training to reach competence and will be required to withdraw from the program if they do not meet the CBOs in the normal period of time.

3. Marginal Standing-Academic Warning:

Students with a GPA of 1.8 to 1.9 inclusive may be considered to be in Marginal Standing and may be permitted to continue on Academic Warning.

To clear academic warning and return to satisfactory standing, a student must obtain a minimum 2.0 GPA in the subsequent fall/winter term. Students who fail to clear academic warning are required to withdraw.

4. Unsatisfactory Standing:

Assigned to students whose GPA is below 1.8 or has failed a course. Any student whose technical work and academic performance is deemed unsatisfactory may be required to withdraw from the Faculty.

5. A student permitted to repeat a course or an entire phase must withdraw unless a minimum average grade of 2.7 is obtained on the repeated work.

6. Reexamination:

- a. Students are allowed reexamination privileges only in courses that are failed.
- b. Students must achieve a GPA of 2.0 inclusive of the failed course in order to be considered for reexamination.
- c. The Division of Medical Laboratory Science Academic Standings Committee must approve reexamination.
- d. If reexamination is approved, satisfactory completion of a remedial program may be required before the student is permitted to take the reexamination.

7. Faculty Advisor

At the discretion of the Faculty, a Faculty advisor may be assigned to students having difficulty meeting promotion requirements. The method of assignment and the role of the Faculty advisor is determined by the Faculty.

8. Voluntary Withdrawal

A student wishing to temporarily withdraw registration from the MLS program is required to make written application to the Director, stating the reasons for withdrawal and the intended period of absence. Readmission to the MLS program following voluntary withdrawal will be based on the following:

- a. review, by the Faculty, of the reasons for withdrawal and of the student's academic record;
- b. availability of a place, within quota, in the class to which the student seeks readmission.
- c. The length of time the student interrupts studies leading to the BSc in MLS degree must not exceed two years in total.

Graduation

1. Students must be in satisfactory standing and complete all program requirements in order to graduate.
2. With Distinction: awarded to graduating students who have obtained an average GPA of not less than 3.5 during the final 60 credits of course work

BSc in Medical Laboratory Science Post- Professional Certification degree completion

All students enrolled in the BSc MLS program are bound by and shall comply with the Professional Code of Ethics governing the profession. The Professional Code of Ethics refers to all relevant professional codes and practice standards for medical laboratory technology including:

- Code of Applicant Behaviour
- Code of Student Behaviour
- College of Medical Laboratory Technologists of Alberta Code of Ethics
- College of Medical Laboratory Technologists of Alberta Standards of Practice
- Canadian Society for Medical Laboratory Science Code of Ethics
- Professional Standards for Students in the Faculty of Medicine and Dentistry
- Faculty Code of Conduct

Academic Standings and Graduation

Academic Standings

Final decisions regarding academic standing and promotion to the next year or graduation are made by the Faculty of Medicine and Dentistry Academic Standings and Promotion Committee based on recommendations of the Medical Laboratory Science Academic Standing Committee.

Progression in the program is term by term.

Final approval of academic standings is conducted at the end the academic year, with the exception of "Unsatisfactory Standing". In any term if a student falls under the category "unsatisfactory standing" their academic standing will be assessed immediately.

1. First class standing

Awarded to students with a GPA of not less than 3.5 while enrolled in a normal academic course load

2. Satisfactory Standing

Promotion in the Medical Laboratory Science program depends on passing grades in all subjects of the previous year with a minimum GPA of 2.0.

3. Marginal Standing-Academic Warning

Students with a GPA of 1.8 to 1.9 inclusive may be considered to be in Marginal Standing and may be permitted to continue on Academic Warning. **To clear academic warning and return to satisfactory standing, must obtain a minimum 2.0 GPA in the subsequent fall/winter term. Students who fail academic warning are required to withdraw.**

4. Unsatisfactory Standing

Assigned to students whose GPA is below 1.8 or has failed a course. Any student whose technical work and academic performance is deemed unsatisfactory may be required to withdraw from the Faculty.

A student permitted to repeat a course or an entire phase must withdraw unless a minimum average grade of 2.7 is obtained on the repeated work.

5. Reexamination:

- a. Students are allowed reexamination privileges only in courses that are failed.
- b. Students must achieve a GPA of 2.0 inclusive of the failed course in order to be considered for reexamination.
- c. The Division of Medical Laboratory Science Academic Standings Committee must approve reexamination.
- d. If reexamination is approved, satisfactory completion of a remedial program may be required before the student is permitted to take the reexamination.

6. Faculty Advisor

At the discretion of the Faculty, a Faculty advisor may be assigned to students having difficulty meeting promotion requirements. The method of assignment and the role of the Faculty advisor is determined by the Faculty.

Graduation

1. Students must be in satisfactory standing and complete all program requirements in order to graduate.
2. With Distinction: awarded to graduating students who have obtained an average GPA of not less than 3.5 during the final 60 credits of course work.

BSc Program in Radiation Therapy

The following apply to students in the Bachelor of Science in Radiation Therapy.

1. **Grades**
 - a. The means of assessing a student's progress and determining a student's grades may vary from one course to another, according to the nature of the course. Factors other than examination results may be used to a variable extent by instructors in determining grades. Students are informed at the beginning of each course how grades are to be determined.
 - b. Students must satisfactorily complete all components of all courses in order to receive passing grades in those courses, irrespective of their overall mark.
2. **Promotion and Academic Performance**
 - a. **Academic Performance:** Progression in the program is term by term. Accordingly, all students in a particular co-hort of the program will be registered in the same courses in each term (see Degree of BSc in Radiation Therapy) Students are also held accountable to the University's Code of Student Behaviour and should be familiar with it. See Code of Student Behaviour.
For promotion and graduation, students need to adhere to and meet the requirements as stated in the program's Attendance Policy.

All students enrolled in the Radiation Therapy program are bound by and shall comply with the Professional Code of Ethics governing the profession and practice of Radiation Therapy. The Professional Code of Ethics refers to all relevant professional codes and practice standards for the practice of Radiation Therapy including:

- i. Professional Standards for Students in the Faculty of Medicine and Dentistry.
- ii. Student Pledge of Conduct
- iii. CAMRT Member Code of Ethics and Professional Conduct
- iv. ACMDTT Code of Ethics

Hereinafter, all references to students' academic performance will encompass the adherence to the Professional Codes of Ethics. Students are also held accountable to the University's Code of Student Behaviour and should be familiar with it. See Code of Student Behaviour.

- b. **Academic Standing:** Final decisions regarding academic standing and promotion to the next year or graduation are made by the Faculty of Medicine and Dentistry Academic Standing and Promotion Committee based on recommendations of the Radiation Therapy Program Academic Standing Committee.

Final approval of academic standings is conducted at the end of each student's academic year, with the exception of students that fall into the categories of "Unsatisfactory Standing" and "Required to Withdraw". Students falling in either of these categories will be assessed at the end of the term in which they received either of these standings.

- i. **First-Class Standing:** Awarded to a student who obtains a GPA of 3.5 or above and passes all courses while enrolled in the full normal academic/clinical course load after the completion of the academic year.
- ii. **Satisfactory Standing:** For promotion, a student must pass all courses and obtain a minimum GPA of 2.7.
- iii. **Conditional Standing:** Whenever a student receives a final grade of less than a B- in a Radiation Therapy Program course, the student's total academic and clinical performance in the program will be reviewed. This review will be considered in determining continuation in the program. To clear conditional standing, the student must achieve a minimum of Satisfactory Standing in all terms of the preceding academic year.
- iv. **Unsatisfactory Standing:** Students who fail any academic course in an academic year (Fall, Winter, Spring & Summer) will not be allowed to progress to the next term, will be placed on probation and may be required to repeat the full program year in which the failure occurred.
- v. **Required to Withdraw:**
 - Any student who
 1. fails any clinical course;
 2. is unable to obtain a minimum GPA of 2.7 in any term;

- c. **Probation:** Students who have either been required to withdraw and who have successfully appealed or have an unsatisfactory standing will be placed on probation.

To clear probation and qualify for promotion, the student must achieve Satisfactory Standing in all terms during the probationary year. Students who fail to do so will be required to withdraw. A course failure during the probationary period may result in a required to withdraw.

Only one year of probation is allowed while registered in the BSc in Radiation Therapy program.

3. **Clinical Performance:**
 - a. A student who is absent more than two clinical days in any one clinical course may need to make up the lost time before being allowed to continue in the program.
 - b. The Program Director, or designate acting on behalf of the Program Director, may immediately deny assignment of a student to, withdraw a student from, or vary terms, conditions or site of a practicum/clinical placement if the Program Director or designate has reasonable grounds to believe that this is necessary in order to protect the public interest. (See Practicum Intervention Policy).
4. **Voluntary Withdrawal:** A student wanting to temporarily withdraw registration from the Radiation Therapy Program is required to make written application to the Program Director of the Radiation Therapy Program, stating the reasons for withdrawal and the intended period of withdrawal. Each request will be considered on a case by case basis. Readmission to the Radiation Therapy Program following voluntary withdrawal will be assessed on a case by case basis. Readmission is not guaranteed due to quota. If the length of time the student interrupts their studies exceeds two years, the student will not be granted readmission into the Radiation Therapy Program.

5. **Faculty Advisor:** At the discretion of the Faculty, a Faculty advisor may be assigned to students having difficulty meeting promotion requirements. The method of assignment and the role of the Faculty advisor is determined by the Faculty.
6. **Reexamination:** See Reexaminations
 - a. Reexamination is not permitted in clinical courses.
 - b. The Radiation Therapy Program Academic Standings Committee must approve all reexaminations.
 - c. Students are advised that it is not possible to make a ruling regarding remediation or reexamination until all grades for a term are received and recorded.
 - d. If a reexamination is approved, satisfactory completion of remedial coursework may be required by the Radiation Therapy Program Academic Standing Committee and/or the Faculty Academic Standings and Promotion Committee before the student is permitted to take the reexamination.
 - e. The weight of reexamination is at least that of the final examination.
 - f. The reexamination mark (as in the case of a deferred mark) will replace the original final exam mark.
 - g. A student who does not take a reexamination within the time prescribed by the Faculty will not be allowed to continue in the program.
7. **Graduation:**
 - a. Academic Performance for Graduation: Students must achieve Satisfactory Academic Standing or First Class Standing in their final year of the program; successfully complete all program requirements; and present a graduation average of at least 2.7. The graduation average is a cumulative measure of a student's grade points obtained while registered in the program in all years and terms, including Spring/Summer. It is the quotient of (a) the total number of grade points earned by a student in courses credited to the degree and (b) the total weight of those courses.
 - b. The notation of "With Distinction" is awarded to a graduating student who has obtained an average GPA of 3.5 or higher and no failing grades over the entire program.
8. **Clinical Placement Policies and Requirements:** All students must comply with all Clinical Placement Policies and Requirements.
 - a. Clinical Placements will be facilitated at various cancer centres in Alberta that provide radiation therapy services. Students are responsible for their transportation to clinical placements and for the costs of travel, living and accommodations.
 - b. Students must purchase two lab coats and may wish to purchase uniforms for the clinical courses during the program.
 - c. Valid certification of CPR (Cardiopulmonary Resuscitation) at the Healthcare Provider Level is required and must be maintained throughout the program. A CPR-Healthcare Provider certificate is valid for one year from the date of the course. Evidence of recertification in each subsequent year is required.
 - d. Technical Standard: Students whose skills and abilities change during their studies must declare this change to the program designate for clinical placements immediately. The program will attempt to provide reasonable accommodation, however the student may be required to withdraw from the program if this is not possible.
 - e. Medical Testing and Immunization: See University Infectious Diseases Regulation
 - f. N-95 Respirator Fit Testing: Students are required to be fit tested for N 95 respirators. Check with the Program office for the procedures to obtain this fit testing. Fit testing is required every two years. The associated costs are the responsibility of the student.
 - g. Police Information Check: Students must clear a Police Information Check requiring a Vulnerable Sector Check. Refer to Requirement for Police Information Checks
 - h. The Program Director, or Designate acting on behalf of the Program Director, may immediately deny assignment of a student to, withdraw a student from, or vary terms, conditions or site of practicum/clinical placement if the Program Director, or Designate has reasonable grounds to believe that this is necessary in order to protect the Public Interest. (See Practicum Intervention Policy)

Appeals and Grievances

Students may appeal academic standing decisions in the Faculty. There are informal ways to appeal as well as strict deadlines for submission of formal appeals. Students may obtain the Faculty's complete appeal regulations from the Office of the Dean, 2J2 Walter Mackenzie Health Sciences Centre. Under certain conditions, an unsuccessful appeal in the Faculty may be carried to the General Faculties Council Academic Appeals Committee. See Appeals and Grievances.

Students who have a grievance about a grade in an individual course taught in this Faculty should consult Appeals and Grievances, which describes the informal process for addressing concerns about grades. There is also a formal process in the Faculty for appealing a grade. This process, including deadlines for submission of an appeal, is set out in the Faculty's academic appeal regulations, available from the Office of the Dean, 2J2 Walter Mackenzie Health Sciences Centre.

Professional Standards Expectations for Students and Applicants in the Faculty of Medicine and Dentistry

The University Code of Student Behaviour describes a range of non-academic and academic offences deemed unacceptable and for which a student may be penalized. Refer to the Code of Student Behaviour and the Code of Applicant Behaviour. Amendments to the Codes occur throughout the year. The official version of the Codes, as amended from time to time is housed on the University Governance website at www.governance.ualberta.ca.

Please note: Medicine, Dentistry, Dental Hygiene, Medical Laboratory Science and Radiation Therapy are regulated health professions that are governed by the Health Professions Act in a manner that protects and serves the public interest. Students selected for admission to these programs will be expected to uphold specific ethical principles and values reflected in the professional code of ethics of their respective professional/licensing bodies. As such, student conduct during the admissions process, including (but not limited to) any and all communications and interactions with the Faculty before and during admission, are considered part of the admission process and may be taken into account during admission deliberations. Admission may be denied to applicants who communicate or act in a manner that may be considered inappropriate or unprofessional regardless of academic standing.

Also see Code of Applicant Behaviour.

Programs of Study

Protection for Persons in Care

Students should be aware that under the *Protection for Persons in Care Act* all students going to any clinical placement or rotation in Alberta are required to complete a Police Information Check (also known as a Criminal Record Check, Security Clearance Check, or Police Clearance), which must include a Vulnerable Sector Check. The clinical practice site will determine the criteria for acceptance/denial of a placement. Students are responsible for having a criminal record check completed upon receiving conditional admission to the Faculty.

Students who have concerns related to their ability to provide a clear Police Information Check should consult with the Faculty. The ultimate responsibility for ensuring that students meet the requirements of clinical agencies lies with the students. Other background checks may be required by a clinical agency, such as a child intervention record check. Students will be advised if any additional background checks are required by a clinical agency. See Requirement for Police Information Checks for more information on the general requirements concerning Police Information Checks and the fees associated with them.

Should a student subsequently be charged or convicted while enrolled in the program, the student must advise the Faculty. Students should be aware that having an unclear Police Information Check can prevent them from securing a clinical placement and hence, preclude them from graduating from the program and/or becoming licensed to practice.

MD with Special Training in Research

This program is for students looking for in-depth exposure to research during medical school. Students complete a minimum of 24 weeks of hypothesis-driven research requiring collection of primary data, analysis and presentation in oral and written formats. Flexible timelines for completion of the program are available. A Faculty member who has a committed research program supervises the student. The supervisor and student have made arrangements for financial support of the student for summer months. The MD Research Committee monitors the program and evaluates student performance. Successful students receive an academic honor of "with Special Training in

Research" that is denoted officially on their transcripts and degree parchment. For information, contact the Office of Research, Faculty of Medicine and Dentistry, 2-13 Heritage Medical Research Centre.

Honors in Research Program in Medical Laboratory Science

This program is for students looking for in-depth exposure to research during Medical Laboratory Science education. Students wanting to pursue this program will have a GPA of at least 3.5 in courses taken in the first and second phases of the program and will have completed STAT 141, STAT 151, STAT 337, or equivalent. Students must spend one summer (16 weeks) and complete a ★6 research course offered by the Division. All students are supervised by a staff member who has shown commitment to the project and to the financial support of the student for the summer months. The program is monitored by the MD Research Committee. Successful students receive recognition on their transcripts and degrees through the notation "With Honors in Research." For information, contact the Director, Division of Medical Laboratory Science, 5-411 Edmonton Clinic Health Academy.

Graduate Studies

The Faculty of Medicine and Dentistry offers Master's, PhD and MD/PhD degrees. Details on these programs can be found in the Graduate Programs section of the Calendar, listed by department.

Continuous Professional Learning

Continuous Professional Learning provides practicing physicians with the opportunity to remain up-to-date in knowledge, skills and attitudes. The division currently offers the Video-conference program, the Urban Program and PCN customized programs for urban physicians. The division is also involved in the Physician Learning Program, a collaboration project with the University of Calgary. The Physician Learning Program is an evidence-based, practice specific learning tool. Using provincial data sources to capture both perceived and unperceived learning needs, physicians can become informed about their individual needs and receive guidance and assistance in the pursuit of educational activities in light of the evidence. The Division enjoys the support of the College of Family Physicians of Alberta, Alberta Health, and the Alberta Medical Association (<http://albertapl.ca>)

Inquiries about these programs should be directed to the Associate Dean, Continuous Professional Learning, 2-590 Edmonton Clinic Health Academy, University of Alberta, Edmonton, AB T6G 1C9.

Continuing Dentistry Education

The Department of Dentistry sponsors a wide variety of continuing dental education opportunities throughout the year through the Continuing Dental Education program. Courses are offered both on campus and occasionally at other sites within the province. Annually, thousands of dentists, dental hygienists, dental assistants and others participate in the many lecture, hands-on clinical and laboratory-type courses that are offered. Local and visiting speakers of national and international reputation provide continuing education of a high quality.

Postgraduate Medical Education

Postgraduate medical training is a component of eligibility for licensure in Canada. Programs are operated by the University of Alberta according to guidelines established by the College of Family Physicians of Canada and by the Royal College of Physicians and Surgeons of Canada.

Postgraduate training accredited by the College of Family Physicians of Canada is available under the auspices of the Department of Family Medicine. In addition to the standard two-year program required for certification in Family Medicine, a Certificate of Added Competency (CAC) recognizing enhanced skills in the area of Emergency

Medicine, Care of the Elderly, Enhanced Surgical Skills, Family Practice Anesthesia, Palliative Care, Occupational Medicine and Sport and Exercise Medicine are also available.

Specialty programs accredited by the Royal College of Physicians and Surgeons of Canada include the following:

Primary Certification Programs

- Anesthesiology
- Anatomical Pathology
- Cardiac Surgery
- Dermatology
- Diagnostic Radiology
- Emergency Medicine
- General Pathology
- General Surgery
- Hematological Pathology
- Internal Medicine
- Medical Microbiology
- Neurology (Adult and Pediatric)
- Neurosurgery
- Nuclear Medicine
- Obstetrics and Gynecology
- Occupational Medicine
- Ophthalmology
- Orthopedic Surgery
- Otolaryngology Head and Neck Surgery
- Pediatrics
- Physical Medicine and Rehabilitation
- Plastic Surgery
- Psychiatry
- Public Health and Preventive Medicine
- Radiation Oncology
- Urology

Subspecialty Certification

- Cardiology (Adult and Pediatric)
- Child and Adolescent Psychiatry
- Critical Care Medicine
- Developmental Pediatrics
- Endocrinology (Adult and Pediatric)
- Forensic Pathology
- Forensic Psychiatry
- Gastroenterology (Adult and Pediatric)
- Geriatric Medicine

Geriatric Psychiatry
Hematology
Infectious Diseases (Adult and Pediatric)
Medical Oncology
Neonatal Perinatal Medicine
Nephrology (Adult and Paediatric)
Occupational Medicine
Pediatric Emergency Medicine
Pediatric Hematology/Oncology
Pediatric Radiology
Respirology (Adult and Pediatric)
Rheumatology

Special Programs

Clinician Investigator Program

Special programs accredited by Professional sub-specialty organizations include the following:

- Clinical Biochemistry – accredited by Canadian Academy of Clinical Biochemistry
- Clinical Microbiology – accredited by the Canadian College of Microbiologists
- Histocompatibility and Immunogenetics – accredited by the American Society of
- Histocompatibility and Immunogenetics
- Molecular Genetics - accredited by the Canadian College of Medical Geneticists
- Cytogenetics - accredited by the Canadian College of Medical Geneticists
- Biochemical Genetics - accredited by the Canadian College of Medical Geneticists

Inquiries regarding these programs should be directed to the Associate Dean, Postgraduate Medical Education, 2-76 Zeidler Ledcor Centre, University of Alberta, Edmonton, AB T6G 2E1.

All postgraduate medical trainees are registered as graduate students in the Division of Postgraduate Medical Education of the Faculty of Medicine and Dentistry and pay a program registration fee.

Application for entry-level postgraduate positions in all Primary Certification Programs is made through the Canadian Resident Matching Service (CaRMS) in the final year of medical school. Further information is available from the Canadian Resident Matching Service, 2283 St Laurent Blvd Ste 110, Ottawa, ON K1G 3H7. Certificate of Special Competence program require prior training in a Primary Certification Program. All international medical graduates must pass the Evaluating Examination and Part I of the Qualifying Examination of the Medical Council of Canada. Information is available from the Medical Council of Canada, Box 8234, Station T, Ottawa, ON K1G 3H7.

The requirements for a portable license valid in all Canadian provinces except Quebec are as follows:

1. An MD degree.
2. The Licentiate of the Medical Council of Canada (LMCC), obtained after successfully passing Parts I and II of the Medical Council of Canada Qualifying Examination (MCCQE). Part I is normally written in May of the final year of medical school. Part II is normally written after completing 12 months of postgraduate clinical training.
3. Certification from either the College of Family Physicians of Canada or the Royal College of Physicians and Surgeons of Canada.

Further information regarding licensure is available from the College of Physicians and Surgeons of Alberta, #2700 Telus Plaza, 10020-100 Street NW, Edmonton, AB T5J 0N3.

The requirements for entry of Special Programs are program specific and is available from the programs directly. Application for positions in Special Programs is made directly to the program.

Note: For classification purposes, postgraduate medical students are considered graduate students. As such, they have the option of paying fees to the Graduate Students' Association.

Postgraduate Dental Education

General Practice Residency

The General Practice Residency is designed to enhance the diagnostic, treatment planning and clinical skills of general dentists in management of patients with complex systemic health issues, as well as key specialty disciplines so that they can successfully deliver a broader range of oral health care services.

This general practice residency program is one calendar year in length, July 1 through June 30. Three recent DDS graduates are accepted each year, generally graduates of accredited Canadian dentistry programs.

Under the direction of dental specialists and general practitioners, residents will provide care to patients who frequently are not seen in community dental practices for reasons of systemic disease or disability. Patients are treated at University of Alberta Hospital during scheduled day-time hours, during a walk-in emergency clinic evenings and week-ends, and occasionally on-call. Residents also provide patient care at the University of Alberta School of Dentistry in the Edmonton Clinics and other affiliated hospitals. Through seminar sessions and clinical teaching, the areas of endodontics, periodontics, prosthodontics, oral surgery, dental implants, pediatric dentistry, hospital dentistry, conscious sedation, advanced oral diagnosis and treatment planning, oral medicine, orofacial pain and advanced general dentistry are taught.

An important additional component of this residency program will include health care rotations by each resident to an underserved area of this province.

Combined Program for the Degrees of MD and PhD

The MD/PhD combined program is intended for exceptional students who are seriously committed to a career in medical research. Highly qualified students wishing to pursue a career of teaching and research in either basic medical science or in clinical medicine may enrol in a program of approximately six years' duration leading to the acquisition of both an MD and a PhD degree from the University of Alberta. To be eligible for the combined program, students must already have been admitted to the MD program. Students are admitted to the combined program on the recommendation of the MD/PhD Committee.

Students entering the MD program from a preprofessional medical or a bachelor's program, and who are interested in applying to the MD/PhD program, should do so in their first year of medical school. For these students, admission into the program begins after completion of the second year of the MD program. Alternately, students who are transferring from a University of Alberta graduate program to the MD program are eligible to enrol immediately in the combined program. The most common route is for students to complete the first two years of the MD program, apply for and be admitted into the PhD program, and when the PhD is completed, return to the final two years of the MD program. Students pursuing the combined program will be assessed fees for both the MD and the PhD programs.

Students interested in such a program may obtain further information from the Office of Research, Faculty of Medicine and Dentistry, 2-13 Heritage Medical Research Centre, University of Alberta, (780) 492-9721, janis.davis@ualberta.ca.

Courses

Faculty of Medicine and Dentistry courses are listed in Course Listings, under the following subject headings:

- Anaesthesiology and Pain Medicine (ANAES)
- Anatomy (ANAT)
- Biochemistry (BIOCH)
- Biomedical Engineering (BME)
- Cell Biology (CELL)
- Dentistry (DDS)
- Dentistry (DENT)
- Dentistry/Medicine (DMED)
- Dental Hygiene (D HYG)
- Family Medicine (F MED)
- Laboratory Medicine Pathology (LABMP)
- Medical Genetics (MDGEN)
- Medical Laboratory Science (MLSCI)
- Medical Microbiology and Immunology (MMI)
- Medicine (MED)
- Medicine, Interdepartmental (INT D and MED)
- Neuroscience (NEURO)
- Obstetrics and Gynaecology (OB GY)
- Oncology (ONCOL)
- Ophthalmology (OPHTH)
- Oral Biology (OBIO)
- Paediatrics (PAED)
- Pharmacology (PMCOL)
- Physics/Biomedical Engineering (PH BE)
- Physiology (PHYSL)
- Postgraduate Medical Education (PGME)
- Psychiatry (PSYCI)
- Public Health Sciences (PHS)
- Radiology and Diagnostic Imaging (RADDI)
- Surgery (SURG)

Programs

Undergraduate

Bachelor of Science (Dental Hygiene)

General Information

The Department of Dentistry offers a Bachelor of Science (Dental Hygiene). The Dental Hygiene Program enables students to acquire knowledge and develop understanding and abilities so that they may assume varied responsibilities in clinical practice, health promotion, teaching, community health care, and research.

The dental hygienist is an integral member of the health care team and strives to improve oral health by providing education, preventive services and therapeutic treatment to the public. The dental hygienist with a baccalaureate degree is a leader in developing, initiating and evaluating oral health interventions in diverse patient populations that prevent and control oral disease and promote oral wellness. The ultimate goal of a baccalaureate program is to educate professionals who contribute significantly to the improvement of oral health.

Bachelor of Science (Dental Hygiene) graduates are prepared to work in a large number of settings including, but not limited to private dental practices, independent dental hygiene practice, research, education, industry, health care institutions or health promotion agencies. Graduates are prepared for intra and inter professional collaborative practice. This degree prepares graduates to pursue post baccalaureate or graduate level programs.

The Dental Hygiene curriculum includes courses from biomedical, behavioural and clinical sciences. In each year of the program, students participate in external practicum experiences within the city and surrounding districts in various community settings, such as hospitals, schools, long-term care facilities, and community agencies/clinics. An experience in an external rural clinic is required.

The Dental Hygiene Program is approved by the Commission on Dental Accreditation Education of Canada. Successful students are eligible to complete the National Dental Hygiene Certification Examination (Canadian) and the National Board Dental Hygiene Examinations of the American Dental Association.

Further details may be obtained from the Director of the Dental Hygiene Program, Faculty of Medicine and Dentistry.

Orientation

It is mandatory that each student, after acceptance into the program, attend Orientation. This is scheduled immediately before the beginning of the first term of each year.

Course Requirements

The numbers following a course name indicate either the number of weeks assigned to the course or the number of hours spent in lectures, clinics and laboratories.

Bachelor of Science (Dental Hygiene)

Bachelor of Science (Dental Hygiene) (Dental Hygiene Diploma plus)

Students completing the Dental Hygiene Diploma program in 2018 who enrol in the Bachelor of Science degree will complete Year 4 courses.

Year 4

- D HYG 413
- D HYG 414
- D HYG 417 - Practice Management : Small Business and Entrepreneurship
- D HYG 418 - Long Term Care and Dental Hygiene Services
- D HYG 422 - Health Information and Policy
- D HYG 431 - Topics in Dental Hygiene
- D HYG 440 - Advocacy for Change in Healthcare
- D HYG 468 - Introduction to Research Methods and Critical Appraisal
- Two Options ★6 78-0-0

Note:

(a minimum of one at the 300- or 400-level with the approval of Program Director) A maximum of ★3 from PAC courses is permitted.

Bachelor of Science (Dental Hygiene) (one preprofessional year plus)

Year 2

- BIOCH 200 - Introductory Biochemistry
- D HYG 240 - Oral Radiology I
- D HYG 250
- D HYG 251 - Anatomical Structures for Dental Hygiene Practice
- D HYG 255 - Oral Health Sciences I
- D HYG 256 - Oral Health Sciences II
- D HYG 260 - Dental Hygiene Theory and Practice I
- D HYG 270 - Behavioural Sciences I
- D HYG 299 - Dental Hygiene Collaborative Practice I
- MMI 133 - Medical Microbiology for Health Care Professionals
- OBIOL 202 - Oral Biology I
- PHYSL 210 - Human Physiology

Year 3

- D HYG 329

- D HYG 340 - Oral Radiology II
- D HYG 355 - Oral Health Sciences III
- D HYG 356 - Oral Health Sciences IV
- D HYG 360 - Dental Hygiene Theory and Practice II
- D HYG 370 - Behavioural Sciences II
- D HYG 399 - Dental Hygiene Collaborative Practice II
- OBIOL 302 - Oral Biology II
- OBIOL 305 - Pathology
- PMCOL 300 - Introduction to Pharmacology

Year 4

- D HYG 455 - Oral Health Sciences V
- D HYG 456 - Oral Health Sciences VI
- D HYG 460 - Dental Hygiene Theory and Practice III
- D HYG 470 - Behavioural Sciences III
- D HYG 480 - Behavioural Sciences IV
- D HYG 499 - Dental Hygiene Collaborative Practice III
- One Option ★3

Bachelor of Science (Dental Hygiene) Post Diploma Degree Completion Program

A Bachelor of Science (Dental Hygiene) Post Diploma Degree Completion program will prepare diploma dental hygiene graduates to participate more fully and productively in a health care system that emphasizes prevention, primary care, accountability, quality and cost effectiveness. The dental hygienist with a baccalaureate degree is a leader in developing and initiating oral health interventions that prevent and control oral disease and promote oral wellness, and in facilitating change itself. The ultimate goal of a baccalaureate program is to prepare students to contribute significantly to the improvement of oral health goals in current and future health care delivery systems by preparing well-qualified professionals with knowledge, skills, and awareness at the baccalaureate degree level.

The degree completion program will provide educational opportunities accessible to all qualified candidates tailored to the experienced dental hygienist, the adult learner and the distance learner.

Program A

Bachelor of Science (Dental Hygiene) Post Diploma Degree Completion Program: University of Alberta, Dental Hygiene Diploma Graduates of 1998-2001.

This program is intended for students who graduated from the University of Alberta Dental Hygiene Program between 1998-2001. Dental Hygiene graduates of 1998-2001 have completed the extended diploma curriculum. The degree completion program consists of the following courses:

- D HYG 417 - Practice Management : Small Business and Entrepreneurship
- D HYG 418 - Long Term Care and Dental Hygiene Services
- D HYG 431 - Topics in Dental Hygiene
- D HYG 440 - Advocacy for Change in Healthcare
- Two Options ★6 78-0-0

Note:

(at the 300- or 400-level with the approval of Program Director) A maximum of ★3 from PAC courses is permitted.

Program B

Bachelor of Science (Dental Hygiene) Post Diploma Degree Completion Program: University of Alberta, Dental Hygiene Diploma Graduates (prior to 1998 as well as 2008 and forward) and dental hygiene graduates from other programs.

This program is intended for University of Alberta graduates prior to 1998 as well as 2008 and forward and diploma dental hygiene graduates from accredited dental hygiene programs in Canada and internationally.

The degree completion program consists of the following courses:

- D HYG 417 - Practice Management : Small Business and Entrepreneurship
- D HYG 418 - Long Term Care and Dental Hygiene Services
- D HYG 422 - Health Information and Policy
- D HYG 431 - Topics in Dental Hygiene
- D HYG 440 - Advocacy for Change in Healthcare
- D HYG 468 - Introduction to Research Methods and Critical Appraisal (or equivalent health research course)
- Four options ★12 156-0-0

Note:

(with the approval of the Program Director, two at the 300- or 400-level) A maximum of ★3 from PAC courses is permitted.

Program C

Bachelor of Science (Dental Hygiene) Post Diploma Degree Completion Program: University of Alberta, Dental Hygiene Diploma Graduates (Year 2002 - 2007).

Graduates of the University of Alberta Dental Hygiene Program of 2002-2007 will be required to complete the following courses:

- D HYG 417 - Practice Management : Small Business and Entrepreneurship
- D HYG 418 - Long Term Care and Dental Hygiene Services
- D HYG 422 - Health Information and Policy
- D HYG 431 - Topics in Dental Hygiene
- D HYG 440 - Advocacy for Change in Healthcare
- D HYG 468 - Introduction to Research Methods and Critical Appraisal (or equivalent health research course)
- SOC 210 - Introduction to Social Statistics (or equivalent statistics course)
- Three options ★9 117-0-0

Note:

(with approval of Program Director, two at the 300- or 400-level) A maximum of ★3 from PAC courses is permitted.

BSc in Medical Laboratory Science Post-Professional Certification degree completion

General Information

The Faculty of Medicine and Dentistry offers a program for degree completion for Canadian Society for Medical Laboratory Science general certificate holders. Because of the changing nature of the field, there is a practise requirement that must be met (see Admission).

The program requires ★75 additional study post-diploma and ★60 must be completed through the University of Alberta.

Program of Courses

Year 1

- BIOL 107 - Introduction to Cell Biology
- CHEM 101 - Introductory University Chemistry I
- CHEM 102 - Introductory University Chemistry II

- CHEM 164 - Organic Chemistry I **OR**
- CHEM 261 - Organic Chemistry I

- CHEM 263 - Organic Chemistry II
- MLSCI 244 - Pathogenic Microbiology I
- MLSCI 245 - Pathogenic Microbiology II
- MLSCI 320 - Analysis and Communication of Biomedical Information

- STAT 141 **OR**
- STAT 151 - Introduction to Applied Statistics I **OR**
- STAT 337 - Biostatistics

- Approved MLS options (★6)

Spring/Summer

- BIOCH 200 - Introductory Biochemistry
- BIOCH 330 - Nucleic Acids and Molecular Biology
- Arts options (★6)

Year 2

- MLSCI 295 - Foundations of Interprofessional Collaborative Practice
- MLSCI 410 - Introduction to Clinical Laboratory Management

- MLSCI 480 - Molecular Genetic Approaches to the Study and Diagnosis of Disease
- Arts option (★3)

Project course

- MLSCI 491 - Research Project
OR
- MLSCI 409 - Research Project **AND**
- Science option (★3)

★12 chosen from

- MLSCI 420 - Emerging Trends in Medical Laboratory Science
- MLSCI 430 - Advanced Hematology
- MLSCI 460 - Clinical Biochemistry
- MLSCI 466 - Applied Toxicology
- MLSCI 475 - Clinical Immunology
- MLSCI 481 - Techniques in Molecular Biology

- MMI 405 - Advanced Microbial Pathogenicity **OR**
- MMI 415 - Advanced Viral Pathogenesis **OR**
- MMI 426 - Medical Parasitology

DDS Advanced Placement Program

General Information

The Department of Dentistry offers an advanced placement DDS degree to a selected number of students who already possess a dental degree from a dental program recognized by the World Health Organization. After admission into the program, these students will enter the third year of the program and will be fully integrated with the third year students. The purpose of the program is to enable these students to write the National Dental Examining Board examinations for certification to practice dentistry in Canada.

Curriculum for Advanced Placement Students

Prior to entry into the program, students will be required to participate in and complete DDS 829 - Introduction to DDS Advanced Placement. Upon completion of DDS 829, students will follow the third year DDS curriculum, including assignments to treat patients in the University's Department of Dentistry clinics under the supervision of the clinical faculty.

The curriculum for second-year Advanced Placement students will follow the fourth year DDS curriculum which will include assignments to the Satellite Dental Clinic in northern Alberta and external hospitals. Thus students are able to relate their field of health service to the science and art of preventing, treating, and alleviating disease.

Technical Standards

The School of Dentistry Technical Standards Policy defines the necessary knowledge, skills, professional behaviors, and attitudes expected of students. Please see the School of Dentistry website for further information.

Course Requirements

Year 1

- DDS 541 - Dental Pharmacology
- DDS 545 - Clinical Practice I
- DDS 547 - Geriatrics
- DDS 555 - Practice Management

Year 2

- DDS 565 - Clinical Practice II

DDS Degree

General Information

Curriculum

The Department of Dentistry offers a four-year (11-term) program leading to the degree of Doctor of Dental Surgery (DDS), following satisfactory completion (after senior matriculation) of at least two preprofessional years of university education. The preprofessional years provide the necessary background in inorganic chemistry, organic chemistry, biology, physics, biochemistry, statistics, the humanities, and social sciences.

Technical Standards

All students considering application to the DDS Degree program should review the School of Dentistry Technical Standards Policy. This policy defines the necessary knowledge, skills, professional behaviors, and attitudes expected of students to demonstrate competency and to demonstrate successful completion of the program.

Library

The Medical Sciences reading room of the John W Scott Health Sciences Library contains a comprehensive selection of reference materials and textbooks on dentistry and related subjects. In addition, it contains most current dental journals in English and other languages, and the *Index to Dental Periodical Literature*, an index to all dental periodicals since 1839.

Orientation

In a health professional educational program such as this, it is mandatory that each student, after acceptance into the program, attend all identified orientation sessions indicated in the student schedule. For DDS professional students, these sessions are considered part of the curriculum and attendance at such is a component of demonstrating competency in professionalism. These are scheduled at the beginning of the first term of each year.

Course Requirements (for students beginning in 2019 or later)

Year 1

- DDS 511 - Foundations of Dentistry
- DDS 512 - Dental Disease and Risk Management
- DDS 513 - Patient Assessment I
- DDS 515 - Patient Assessment II
- DDS 516 - Diagnose and Manage Early Disease

Year 2

- DDS 521 - Oral Health and Nutrition
- DDS 522 - Diagnosing and Managing Oral Disease
- DDS 524 - Diagnosing and Managing Advanced Conditions I
- DDS 525 - Diagnosing and Managing Advanced Conditions II
- DDS 526 - Clinical Practice I

Year 3

- DDS 530 - Clinical Practice II
- DDS 531 - Clinical Treatment Skills

Year 4

- DDS 540 - Clinical Practice III
- DDS 542 - Advanced Elective Experiences

Course Requirements (for students beginning in 2018 or earlier)

Year 1

- DDS 509 - Pre-Clinical Practice of Dentistry I
- DDS 510 - Patient-Centred Care

- DDS 514 - Anatomy (Dental)
- DDS 518 - Oral Biology I
- DMED 511 - Foundations of Medicine and Dentistry
- DMED 513 - Endocrine System
- DMED 515 - Cardiovascular System
- DMED 516 - Pulmonary System
- DMED 517 - Renal System

Year 2

- DDS 506 - Gastroenterology and Nutrition
- DDS 507 - Neurosciences and Organs of Special Senses
- DDS 508 - Oncology
- DDS 517 - Psychiatry
- DDS 520 - Patient-Centred Care
- DDS 523 - Musculoskeletal System
- DDS 529 - Pre-Clinical Practice of Dentistry II
- DDS 532 - Oral Biology II
- DDS 533 - Oral Pathology

Year 3

- DDS 541 - Dental Pharmacology
- DDS 545 - Clinical Practice I
- DDS 547 - Geriatrics
- DDS 555 - Practice Management

Year 4

- DDS 565 - Clinical Practice II

Degree of Bachelor of Medical Science

The degree of Bachelor of Medical Science may be awarded to students in the DDS or MD program at the end of the second year of that program who have fulfilled the following requirements at this or another university:

1. Two or more years of social sciences, general sciences, physical sciences or engineering, with successful completion of undergraduate course work totaling no less than ★60 with one academic year of ★30.
2. Successful completion of Year 1 and 2 of the DDS or MD program.

Provisions

1. None of the courses mentioned above have been used for credit toward another degree.
2. The final two years must be taken at the University of Alberta.
3. All courses have been successfully completed.

Degree of BSc in Medical Laboratory Science

General Information

The Faculty of Medicine and Dentistry offers an undergraduate degree program in Medical Laboratory Science. The program is designed to develop competent, critical thinking, reflective medical laboratory technologists who effectively contribute to the care of patients and who are committed to excellence in professional practice.

This degree also prepares graduates to pursue post-baccalaureate or graduate programs that may lead to advanced practice opportunities.

The preprofessional year and Phases I and III of the program are normal university years. In Phase I foundational concepts are taught. Phase II consists of clinical hospital laboratory training under the direct supervision of the Faculty of Medicine and Dentistry. In Phase III students explore advanced concepts in laboratory medicine. If successful in all competency based objectives, students may write certification examinations with the Canadian Society for Medical Laboratory Science, general certification.

Note: Because individuals working in hospital laboratories run some risk of infection from materials they handle, all students in the Medical Laboratory Science program must take a series of immunizations approved by the Office of the Dean of Medicine and Dentistry and the Health Sciences Council before beginning Phase I. See University Infectious Diseases Regulation.

Orientation

It is mandatory that each student, after acceptance into the program, attend Orientation. This is scheduled immediately before the beginning of the first term.

Program of Courses

Phase I

- MLSCI 200 - Transition to Clinical Practice
- MLSCI 230 - Hematology
- MLSCI 235 - Hemostasis
- MLSCI 242 - Pathogenic Microbiology I
- MLSCI 243 - Pathogenic Microbiology II
- MLSCI 250 - Human Histology and Histotechnology
- MLSCI 262 - Clinical Biochemistry
- MLSCI 263 - Clinical Biochemistry
- MLSCI 270 - Transfusion Science
- MLSCI 290 - Foundations of Indigenous Health I

- PHYSL (★6)
- Arts Option (★3)

Phase II– Clinical Rotation (See Note 1)

- BIOCH 200 - Introductory Biochemistry
- BIOCH 330 - Nucleic Acids and Molecular Biology
- MLSCI 320 - Analysis and Communication of Biomedical Information
- MLSCI 330 - Clinical Hematology
- MLSCI 340 - Clinical Microbiology
- MLSCI 350 - Histopathology
- MLSCI 360 - Clinical Biochemistry
- MLSCI 370 - Transfusion Science
- MLSCI 390 - Foundations of Indigenous Health II

Phase III (See Note 2)

- MLSCI 295 - Foundations of Interprofessional Collaborative Practice
- MLSCI 480 - Molecular Genetic Approaches to the Study and Diagnosis of Disease
- MLSCI 410 - Introduction to Clinical Laboratory Management
- Arts option (★3)

★12 chosen from

- MLSCI 420 - Emerging Trends in Medical Laboratory Science
- MLSCI 430 - Advanced Hematology
- MLSCI 460 - Clinical Biochemistry
- MLSCI 466 - Applied Toxicology
- MLSCI 475 - Clinical Immunology
- MLSCI 481 - Techniques in Molecular Biology

- MMI 405 - Advanced Microbial Pathogenicity **OR**
- MMI 415 - Advanced Viral Pathogenesis **OR**
- MMI 426 - Medical Parasitology

Project course:

- MLSCI 491 - Research Project
OR
- MLSCI 409 - Research Project **AND**
- Science option (★3)

Notes

1. During the Phase II clinical rotation, students are assigned to hospital laboratories approved for this purpose by the Council of the Faculty of Medicine and Dentistry.
2. ★3 in a Science option are required if a ★3 project is completed. ★0 in a science option are required if a ★6 project is attempted.

Degree of BSc in Radiation Therapy

General Information

The Department of Oncology in the Faculty of Medicine and Dentistry at the University of Alberta offers an undergraduate degree in Radiation Therapy. The program is designed to develop a competent, critical thinking, reflective radiation therapist who effectively contributes to the care of the patient with cancer and who is committed to excellence in professional practice.

Program design support learners' progression from knowledge through skill acquisition to synthesis and competency. It also enables the development towards achievement of the described professional qualities of a radiation therapist by thinking, communicating, and acting in increasingly sophisticated ways. This degree prepares graduates to pursue post-baccalaureate or graduate programs that may lead to advanced practice opportunities.

In addition, students will learn the foundations of research and engage in group research projects during the clinical component of the fourth year of the degree program. For admission information, see Bachelor of Science in Radiation Therapy.

Orientation

It is mandatory that each student, after acceptance into the program, attend the Faculty of Medicine and Dentistry Orientation. This is scheduled immediately before the beginning of the first term.

Program of Courses

Year 1 (Preprofessional)

Program Requirements ★30

For University of Alberta Learners:

- BIOL 107 - Introduction to Cell Biology
- CELL 201 - Introduction to Molecular Cell Biology
- CHEM 101 - Introductory University Chemistry I
- CHEM 261 - Organic Chemistry I
- 100-Level (★3) ENGL

- MATH 113 - Elementary Calculus I **OR**

- MATH 114 - Elementary Calculus I **OR**
- MATH 134 - Calculus for the Life Sciences I

- PHYS 124 - Particles and Waves
- PHYS 126 - Fluids, Fields, and Radiation
- STAT 151 - Introduction to Applied Statistics I

★3 from

- 100-Level PSYCO **AND/OR** 100-Level SOC

For Non-University of Alberta Learners:

- ★3 Statistics
- ★6 Cell Biology
- ★3 English
- ★3 General Chemistry
- ★3 Organic Chemistry
- ★3 Calculus Math
- ★6 Physics
- ★3 Psychology/Sociology

Note: Preprofessional courses can be completed at any Canadian postsecondary institution, provided they are of rigor and can be given equivalent credit for the courses noted above. It is the learner's responsibility to check that any course taken outside the University of Alberta qualifies for equivalent preprofessional credit.

Year 2

- ONCOL 253 - Cancer Biology
- ONCOL 233 - Concepts and Applications in Medical Physics
- RADTH 205 - Patient Care Principles and Practices
- PHYSL 210 - Human Physiology
- ONCOL 243 - Safety in Radiation Therapy
- ANAT 200 - Human Morphology
- ONCOL 234 - Therapeutic and Imaging Equipment in Radiation Therapy
- ONCOL 254 - Principles of Oncology
- ONCOL 255 - Introduction to Oncology
- RADTH 260 - Radiation Therapy Clinical Practicum I

Year 3

- ONCOL 335 - Radiobiology
- RADTH 301 - Principles and Practices in Radiation Therapy
- ONCOL 355 - Treatment Planning and Dosimetry I

- ANAT 305 - Cross-Sectional Anatomy
- RADTH 328 - Health Care Advocacy and Policy
- ONCOL 309 - Clinical Oncology I
- ONCOL 310 - Clinical Oncology II
- ONCOL 356 - Treatment Planning and Dosimetry II
- ONCOL 306 - Imaging Principles and Analysis in Radiation Therapy
- INT D 410
- RADTH 360 - Clinical Simulation and Reasoning
- RADTH 401 - Radiation Therapy Research Methodology
- RADTH 410 - Special Seminars in Interprofessional Experiences in Radiation Therapy

Year 4

- RADTH 460 - Radiation Therapy Clinical Practicum II
- RADTH 461 - Radiation Therapy Clinical Practicum III

MD Degree

General Information

The program leading to the MD degree is conducted over four years. The curriculum committee is responsible for the overall design, management and evaluation of a coherent and coordinated curriculum.

Years 1 and 2 are the pre-clerkship years in which the material is presented in a series of system-based and longitudinal courses. Each course presents the material in a reasoned progression from basic information to clinical application building on foundational knowledge and skills in step-wise fashion, providing progressively increasing clinical exposure.

Years 3 and 4 are the clerkship years, commonly called the clinical clerkship. During the clerkship, each student must maintain a record of the number and variety of the student's clinical experiences, in order to ensure that the objectives of the clerkship have been met. Year 3 includes clinical rotations or an integrated community based clerkship, a longitudinal Physicianship III/Transitions course, as well as opportunities for elective courses. Year 4 is a senior clinical year, which includes clinical rotations, electives, and a longitudinal Physicianship IV/Transitions course.

Orientation

It is mandatory that each student, after acceptance into the program, attend Orientation. This is scheduled immediately before the beginning of the first term.

Course Requirements

Year 1

- DMED 511 - Foundations of Medicine and Dentistry
- DMED 513 - Endocrine System

- DMED 515 - Cardiovascular System
- DMED 516 - Pulmonary System
- DMED 517 - Renal System
INT D 410 (0-32.5-0)
- MED 516 - Physicianship I (16 hours/week)
- MED 517 - First-Year Elective

Year 2

- MED 520 - Pre-Clinical Exam
- MED 521 - Gastroenterology and Nutrition
- MED 522 - Reproductive Medicine and Urology
- MED 523 (★6) (7 weeks)
- MED 524 - Neurosciences and Organs of Special Senses
- MED 525 - Oncology
- MED 526 - Physicianship II (12 hours/week)
- MED 527 - Second Year Elective
- MED 529 - Psychiatry

Year 3

- F MED 546 - Family Medicine Student Internship
- MED 531 - Physicianship III /Transitions
- MED 543 - Integrated Community Clerkship
- MED 546 - Medicine Student Internship
- MED 547 - Clinical Electives
- OB GY 546 - Obstetrics and Gynaecology Student Internship
- PAED 546 - Paediatrics Student Internship
- PSYCI 546 - Psychiatry Student Internship
- SURG 546 - General Surgery

Year 4

- MED 540 - Exams (9 hours)
- MED 541 - Physicianship IV /Transitions
- MED 555 - Geriatrics Student Internship
- MED 557 - Clinical Electives
- MED 558 - Emergency Medicine Students Internship
- MED 556 - Medicine Student Internship
- SURG 556 - Specialty Surgery

Certificate

Certificate in Biomedical Research

The Certificate in Biomedical Research is offered by the Departments of Biochemistry, Cell Biology, Pharmacology, and Physiology. Students who pursue the certificate will be engaged in world-class biomedical research programs and will acquire a broad range of research skills through substantive laboratory course and independent research project experiences.

Students wishing to pursue the Certificate in Biomedical Research must discuss their program of study both with their own program advisor and, where different, a program advisor in one of the Departments of Biochemistry, Cell Biology, Pharmacology or Physiology. Completion of the certificate must be recorded with the Biomedical Sciences Undergraduate Education Committee at least one week prior to the application deadline for convocation (see Academic Schedule, Dates, and Deadlines). Students wishing to receive the Certificate in Biomedical Research must also apply through Undergraduate Student Services in their home Faculty by the application deadline for convocation (see Academic Schedule, Dates, and Deadlines).

Students may pursue the Certificate in Biomedical Research by fulfilling the existing requirements for their program and by completing at least ★18 in courses as follows:

- Presentation at a research day or conference either on or off campus (see Note 1).

A minimum of ★3 in senior laboratory skills courses selected from:

(See Note 2).

- BIOCH 398 - Research Project (See Note 3)
- BIOCH 401 - Biochemistry Laboratory
- BIOL 391 - Techniques in Molecular Biology and Bioinformatics
- BIOL 398 - Research Project
- CELL 398 - Research Project (See Note 3)
- IMIN 372 - Research Techniques in Immunology
- MLSCI 481 - Techniques in Molecular Biology
- MMI 352 - Microbial Pathogenesis
- MMI 391 - Current Methods in Molecular Biology
- MMI 490 - Advanced Techniques in Microbiology and Immunology
- PHYSL 310 - Experimental Techniques in Physiology
- PMCOL 301 - Introduction to Research in Pharmacology
- PMCOL 337 - Experimental Procedures in Pharmacology

★3 - ★6 in courses which explore current biomedical research literature selected from:

(See Note 2).

- BIOCH 409 - Biochemistry Tutorial
- BIOCH 425 - Proteomics
- BIOCH 465 - Methods in Molecular Biophysics
- BIOCH 495 - Special Topics in Biochemistry
- CELL 405 - Cell Biology of Disease
- CELL 425 - Systems Biology
- CELL 445 - Current Topics in Cell Biology
- IMIN 401 - Comparative Immunology
- IMIN 405 - Innate Immunity
- IMIN 452 - Advanced Immunology
- MMI 405 - Advanced Microbial Pathogenicity
- MMI 415 - Advanced Viral Pathogenesis
- MMI 436 - Inflammation
- MLSCI 430 - Advanced Hematology
- NEURO 450 - Readings on Selected Topics in Neuroscience
- ONCOL 425 - Advanced Topics in Cancer Research
- PMCOL 415 - Cardiovascular Pharmacology
- PMCOL 416 - Current Topics in Endocrine Pharmacology
- PMCOL 425 - Problem Solving in Pharmacology and Therapeutics
- PHYSL 444 - Current Topics in Neuroscience
- PHYSL 466 - Undergraduate Tutorial

A minimum of ★9 in directed research project(s) selected from:

(See Note 2).

- BIOCH 398 - Research Project (See Note 3)
- BIOCH 481 - Design and Construction of Synthetic Biological Systems I
- BIOCH 497 - International Directed Research Project
- BIOCH 498 - Directed Research Project
- BIOCH 499 - Directed Research Project
- BIOL 498 - Research Project
- BIOL 499 - Research Project
- CELL 398 - Research Project (See Note 3)
- CELL 498 - Research Project
- CELL 499 - Research Project
- MLSCI 409 - Research Project
- MLSCI 491 - Research Project
- MMI 498 - Research Project in Infection and Immunity

- MMI 499 - Independent Research in Infection and Immunity
- NEURO 451 - Honors Research Project in Neuroscience
- NEURO 452 - Honors Research Project in Neuroscience
- NEURO 498 - Honors Research Project in Neuroscience I
- NEURO 499 - Honors Research Project in Neuroscience II
- PHYSL 461 - Undergraduate Research Project
- PHYSL 467 - Undergraduate Research Project
- PHYSL 468 - Undergraduate Research Thesis I
- PHYSL 469 - Undergraduate Research Thesis II
- PMCOL 302 - Introduction to Research in Pharmacology
- PMCOL 401 - Pharmacology Tutorial
- PMCOL 402 - Pharmacology Tutorial
- PMCOL 498 - Pharmacology Research Program

Notes:

Students should plan the completion of the research certificate in consultation with the program advisor of one of the departments listed to ensure appropriate courses are taken.

1. The form of presentation includes both oral and poster.
2. The courses and research projects listed are examples and the lists are not exclusive. Courses and research projects other than those listed may be approved as equivalent. For more information, please consult your program advisor. Final approval is by the Biomedical Sciences Undergraduate Education Committee.
3. BIOCH 398 and CELL 398 may be used for credit towards ★3 in senior laboratory skills courses or ★9 in directed research project(s), but NOT both.