UNIVERSITY OF NEW BRUNSWICK
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Unit & Sub-unit	Areas of Strength	Description of the unit and collaboration
UNBF Faculties and Departments		
Arts, faculty of		
Anthropology	Anthropology of Fisheries; Property Studies; Anthropology of Education; Medical Anthropology/HIV-AIDS Research; Maritimes Prehistory	The only stand-alone three-fields Anthropology Department in the Maritimes offering both undergraduate and graduate programs.
	Centre for Conflict Studies	Focuses exclusively on revolutionary and civil wars, political terrorism, covert operations, unconventional warfare, intelligence services, propaganda, and the role of the media in modern warfare.
Classics and Ancient History	Study abroad/archaeology	Tours to Greece and Turkey. Archaeology programme planned for Greece.
Culture and Language Studies	18th and 20th-Century German Literature and Culture, German Language Acquisition, Music-Theatre, Opera, Performing Arts; 19th and 20th c Spanish, Latin American, Polish and Russian narrative; Contemporary culture of Latin America and Spain; 18th - 20th Century German Literature and Culture, Lessing, Goethe, Holocaust Literature, Popular Culture, Queer Theory, Gay and Lesbian Literature; Literary Theory (Bakhtin, Lotman), World Literature, Russian Literature (Babel, Aksyonov, Bulgakov, Gorbanevskaia)	
Economics	Public policy, regional economics, health economics, industrial organization	The Department of Economics is the premier economics department in New Brunswick, we are an applied research department with research and policy expertise in a broad range of areas in both microeconomics and macroeconomics, including a focus on public policy in Atlantic Canada through our Policy Studies Center.
English	Strong undergraduate programme in all areas of english with options in drama, creative writing and film studies. At the graduate level, known especially for early Modern, Post-Colonial, and Creative Writing, the latter considered among the top programmes in the country. Applying for an interdisciplinary Fine Arts Minor in Film. Developing an MA option in Scholarly	

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Unit & Sub-unit	Areas of Strength	Description of the unit and collaboration
	Editing and Humanities.	
French	Francophone Studies	Offers students a window onto cultural diversity.
Fine Arts	The Department offers in its general programme a wide range of courses in British, Canadian, American, and Postcolonial literature. It also offers courses in creative and expository writing, film, drama production, and language and linguistics, some of which are basic parts of special programmes in Drama, in Creative Writing, and in English Language and the Linguistics of English.	
Interdisciplinary Studies Interdisciplinary programmes: - Comparative and General Literature - International Development Studies - Law in Society - Linguistics - Russian Studies - Women's Studies	Offer the opportunity to cross departmental boundaries and explore issues from multiple perspectives.	
History	Canadian and Atlantic Canadian History, Military/International History, Women's History, and North American, American, and European History	A nationally top ranked department for both its research accomplishments and teaching excellence
Military and Strategic Studies	The Military and Strategic Studies Program at UNB fosters and develops informed public debate and awareness of Canada's security and defence affairs, and builds bonds between Canada's armed forces and its citizens. Students interested in Military and Strategic Studies enrol through the Department of History in an undergraduate or graduate (Masters and PhD) Arts degree program, with a concentration in MSS courses.	
	The Centre for Conflict Studies	Leading academic centre for the study of modern warfare, specializing in Peacekeeping, Intelligence, Low Intensity Conflict and its resolution
Multimedia Studies		
Muriel McQueen Fergusson Centre for Family Violence Research	Current Research Teams:	
	Child Abuse and Neglect	

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Unit & Sub-unit	Areas of Strength	Description of the unit and collaboration
	Conditional Sentencing	
	Creating Peaceful Learning Environments Research	
	Family Violence on the Farm and Rural	
	Provincial Strategy for Dating Violence	
	Religion and Violence	
	Tantramar Family Violence Research	
	The Co-existence of Domestic Violence and Child Maltreatment	
	Workplace bullying	
Philosophy		
Political Science		
Psychology	Cultural studies of communications, deception, stress reactivity, and resilience; Adolescent Development; Clinical Neurophysiology, Physiological Basis of Learning and Memory; Clinical-Social Psychology; Cognitive Science, Cognitive Psychology Neural Networks, Lexical Access; Depression/Anxiety Disorders; Developmental Handicaps (Early Individual Differences), REM Sleep; Feminist psychology; Gambling and Internet Addictions; Health and Rehabilitation Psychology; Human Neuropsychology, Behavioural and Brain Mechanisms of Laterality; Human Sexual Behaviour (communication, satisfaction, dysfunction), Sexual Violence; Individual differences and cognitive neuropsychology; Infant Development (Behaviour Problems in Children); Personnel selection, training and retention	
Sociology	Multimedia and communication; criminology, the law and society; family and domestic violenc; health, healthcare, and wellness.	
Business Administration, faculty of		
	International BBA and MBA degree programs, Curriculum development	University of Warmia and Mazury (UWM) in Olszten, MBA program to students in Poland
		International Institute of Business, MBA program in Kiev

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Unit & Sub-unit	Areas of Strength	Description of the unit and collaboration
		Royal Bank of Trinidad and Tobago, BBA program in Trinidad and Tobago
		Sadat Academy of Management Science (SAMS) in Cairo, Egypt.
Business Administration (Undergrad)	Domestic BBA degree programs	
BBA Concentrations:		
- BBA in Aviation and Operations Management Option		
- Joint Concentration in Finance & Economics		
- BBA and Law		
- Concurrent BBA/BEd Degree Program		
- BBA for Students with another Bachelor Degree		
Business Administration (Graduate):	Domestic MBA degree programs	
- Traditional full-time MBA:		
- Traditional part-time MBA		
- MBA with research components		
- MBA with domestic or international internship		
- Joint MBA/LLB		
- MBA in Sport and Recreation Management		
Computer Science, faculty of		
	Automated Reasoning Group	Automated Argumentation, which corresponds to deductive reasoning, whereas *automated reasoning* implies induction as well as deduction.
	Intelligent and Adaptive Systems	R&D in Web intelligence, network security and application of multiagent systems to eHealth. Currently, the group's work focused on extending the flexibility and responsiveness of websites through automated learning to user usage patterns, interests, goals, knowledge and preferences.
	Grid Computing Research Group	Mesh-based high performance computing applications distributed over multiple parallel computers, and coupling of high-performance Computer Aided Engineering software with Model Predictive Control software.
	Molecular Modeling Software Development Team	Information Systems, Software Engineering, Visual Programming, Molecular Modelling and Computational Chemistry.

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Unit & Sub-unit	Areas of Strength	Description of the unit and collaboration
	Network Security	Research projects in the group focus on various aspects of information and network security. Currently, the group is mainly focused on network survivability and intrusion detection & response systems.
	Reconfigurable Computing Research Group	Hardware-Software co-design, Virtual Machines.
Bachelor of Computer Science - BCS		
Concurrent Degree Programs:	Concurrent Degree Programs - pursue two undergraduate degrees at the same time	
- Computer Science and Arts - BA/BCS		
- Computer Science and Education - BCS/BEd		
- Computer Science and Science - BCS/BSc		
- Computer Science and Geomatics Engineering - BCS/BScE(GGE)		
BCS/MCS Accelerated Program		
Bachelor of Science in Software Engineering - BScSwE		
Undergraduate Certificate in Software Development, including optional work term		
Certificate in Computer-Telephony Integration		
Graduate Degrees (Masters & PhD)		
Education, faculty of		
	Teacher education and curriculum development	B.Ed. Program-we deliver a degree program for practicing teachers, Trinidad and Tobago (Roytec). Research, collaborative degree program(s), students exchange
	Teacher education and curriculum development	Bhutan (CIDA). Research, collaborative degree program(s), students exchange
	Teacher education and curriculum development	Russia (CIDA) Project now completed. Research, collaborative degree program(s), students exchange.
	Professional Development	England (Walsall)- on-going, over 20 years, student teachers' and practicing New Brunswick teachers' exchange program. Promotes collaborative research and in-class experience.
BEd Concurrent Degrees:	The five-year Concurrent Bachelor of Education (BEd) degree in conjunction with another Bachelor's degree.	

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Unit & Sub-unit	Areas of Strength	Description of the unit and collaboration
- Educations and Arts		
- Educations and Administrations		
- Educations and Science		
- Educations and Kinesiology		
- Educations and Computer Science		
BEd Consecutive Degrees: - Adult Education - Art Education - Early Childhood Education - Literacy Education - Mathematics Education - Physical Education - Science Education - Second Language Education - Social Studies Education - Technology Education	The Consecutive Education degree requires that students complete a Bachelor's degree before applying for the BEd degree.	
BEd – 4-year Elementary Degree for First Nations Students	Mostly delivered on site to various New Brunswick First Nations Communities. Curriculum Development and delivery.	Degree program for practicing teacher assistants and early childhood educations.
Graduate Degrees (Masters & PhD): - Adult Education - Counselling Psychology - Critical Studies in Education - Curriculum Studies - Educational Administration - Education Studies - Exceptional Learners - Instructional Design		
	Canadian Research Institute for Social Policy	A multi-disciplinary research organization dedicated to: conducting policy research aimed at improving the education and care of Canadian children and youth, contributing to the training of social scientists in quantitative research methods, and supporting low-income countries in their efforts to build research capacity in child development.
	Early Childhood Centre	Research and development in multiple aspects of early year's education and care including early years schooling, family and community education and early intervention.

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	Mi'kmaq-Maliseet Institute	Assists First Nations students from the Atlantic region and beyond with admissions, academic advising, and access to the many services available to UNB students. Coordinates and administers the Bridging Year for First Nations students, the 4-year Elementary BEd, and summer science camps at various First Nations communities in New Brunswick. Consultants on First National Education to New Brunswick Department of Education. Maintains an on-line dictionary of Maliseet/Passamaquody words, with regular updates. Currently contains over 16,000 words. Compiles and maintains an annotated bibliography and collection of children's books written and/or illustrated by First Nations authors and /or illustrators living in Canada.
	Bhutan Project	Aims are to strengthen the capacity of teacher training institutes in Bhutan, upgrade the academic background of secondary-school teachers and post-secondary lecturers, and enhance the capacity of the Curriculum and Professional Support Services and the Bhutan Board of Examinations. It also assists Bhutan in strengthening its capacity in Education (English and Mathematics), computer science, and Engineering.
	Second Language Education Centre	Teacher education, professional development, curriculum development, research, and evaluation in the field of second language (SL) education, provides SL educators with current information related to SL learning and teaching. The SLEC has been involved in numerous international projects including the Estonian Language Training Project (funded by CIDA), the Canada-EU student/teacher exchange, the hosting of visiting scholars, and most recently a partnership with the Department of French to offer summer school credit courses in France. In addition, SLEC is in the process of a collaborative project with the European Centre for Modern Languages to determine the applicability of the European Language Portfolio project for Canada.

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Unit & Sub-unit	Areas of Strength	Description of the unit and collaboration
Engineering, faculty of		
Chemical Engineering	Energy conversion group	The skills that the group offers to industry are in a range of disciplines such as: combustion; fluidized-bed technology; heat transfer, thermal hydraulics; water treatment and coolant chemistry; corrosion; nuclear power systems; electrical engineering; advanced computer techniques; and, general civil engineering and construction.
	Nuclear energy research	Experience in radiation chemistry, electrochemistry, corrosion and materials science. Experience with databases and comprehensive control system, having implemented, along with AECL, the distributed control system for aCANDU reactor located in China.
Civil Engineering	Construction Engineering and Management Group	Improvements to the performance of the industry through innovation, focused on management processes through the application of information and communication technologies.
	Transportation Group	A multi-disciplinary group composed of faculty from both the engineering and economic departments.
	Materials Group	Treat's Island Natural Marine Exposure, Epoxy Coated Rebar/Corrosion Studies, Lightweight Aggregate/Alkali Aggregate Reaction, Use of High Purity Lignin as a Superplastizer for Concrete, Rpller Compacted Concrete, Ferrocement.
	Groundwater Studies Group	Consists of a multidisciplinary core of individuals who actively work on technical and managerial problems related to groundwater. Research in area of groundwater quality and contamination issues.
Electrical and Computer Engineering	Sustainable Power Research Group	The group conducts research and training in the areas of distributed power generation, renewable energy conversion, power electronics, electrical machines, communications, and advanced control systems. The current research activities include development and demonstration projects of distributed power generation based on wind, photovoltaic, small hydro, micro gas turbine and fuel cell systems, funded by NSERC, SDTC, AIF, NRCan, NBIF, and industry partners.
	Signal Processing, Communications	Digital communications, electromagnetics, signal processing, fibre optics, antenna arrays, cellular location techniques, radio propagation, wireless, spread spectrum, computer networking, space-time techniques, equalization, cyclostationarity, interference. Wireless communications, Distributed Power Generation and Renewable Energy, Adaptive filtering, spectral and signal estimation, Image processing: optical, synthetic aperture radar, hyperspectral analysis, etc.

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	Power Systems, Power Electronics, Power Delivery	Electric Power Utility, Power Electronics, Motor Drives, Electro technical Energy Systems, Power Quality, Facts Technology, Renewable Energy Systems
		Bhutan, Development of Transmission Systems in Bhutan.
	Electrical Engineering degree programs	China. Research and academic collaboration, cooperative program.
		Egypt, Helwan University. Research collaboration, students and facuty exchage
		Sweden, University of Orebro. Research collaboration, students and facuty exchage
		Jordan, Princess Sumaya University for Tehnology. Research collaboration, students and facuty exchage
	Software Engineering	Artificial Intelligence, Knowledge Engineering, e-Activities (i.e. e-Learning). Ukraine, Kharkiv National University of Radio-Electronics
Institute of Biomedical Engineering	Biomedical Engineering	Designing systems and equipment that meet human physical requirements or medical needs.
Forest Engineering	Same as Faculty of Forestry and Environment Management	
Geodesy and Geomatics Engineering	Canadian Centre for Geodetic Engineering	Interdisciplinary research and development with worldwide industrial applications in engineering and geoscience projects. CCGE has worked in close cooperation with Prof. Y. Q. Chen of the Hong Kong Polytechnical University (head of Land Surveying and Geoinformatics Department), an Honorary Research Associate at UNB; Prof. M. Massiéra of Université de Moncton (a specialist in geotechnical engineering); Prof. S. Planeta of the Department of Mining Engineering at Laval University; Prof. S. Oszczak and Prof. A. Wasilewski of the Institute of Geodesy at the University of Warmia and Mazuria in Poland; and Prof. J. Pielok and Prof. E. Popiolek of the Faculty of Mining Surveying at the Technical University of Mining and Metallurgy in Poland.
	Geodetic Research Laboratory	Research and development in the areas of static and kinematic positioning with the Global Positioning System (GPS), satellite altimetry, geoid determination, crustal deformation, the earth's rotation, and tropospheric and ionospheric studies. Development and assessment of global navigation satellite systems (GNSS -- the Global Positioning System and the Russian GLONASS) techniques and algorithms for geodetic and high-precision surveying applications and for aircraft navigation and spacecraft systems.

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	Geographical Engineering Group	Specializing in geographic information systems (GIS), remote sensing, ocean mapping, land administration, land information management research, and geographic information standards.
	Ocean Mapping Group	The research is focused on developing new and innovative techniques and tools for the management, processing, visualization, and interpretation of ocean mapping data.
Geological Engineering	Cooperative program between departments of Geology and Civil Engineering	
Mechanical Engineering	Various areas of Mechanical Engineering	Laboratories: Acoustics and Vibration, Advanced Machining, Advanced Plastics Manufacturing, Active Vibration Controls, Composites and Structural Joints, Flow Induced Vibration, Fluid Mechanics, Heat Transfer, High-Resolution X-ray Microtomography (Micro-CT), Intelligent Sensors System, Threat Material Detection, Manufacturing and Processing, Nuclear Radiation, Stochastic Modeling and Vibration, UNB Thermal Analysis Unit.
	Biomedical Engineering	Basic research in signal processing with applications in control systems for prosthetic limbs, and surgical monitoring; ergonomics; exercise physiology; experimental design; analysis of human gait; medical imaging; and psychology.
Software Engineering	Cooperative program between the departments of Electrical and Computer Engineering and Faculty of Computer Science	
Engineering Library	The Engineering Library provides the resources and services required for the teaching and research programs offered in the Faculties of Engineering and Computer Science.	
Technology Management and Entrepreneurship	Faculty of Engineering	Providing undergraduate and continuing education students opportunities to experience the realities of entrepreneurship and management in technology-based businesses and contributing to the development of the skills necessary to be successful in business.
College of Extended Learning		
Part-time Degree Studies & Adult Learner		
Distance Education & E-Learning		
Career Development		
English Language Programme		

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Unit & Sub-unit	Areas of Strength	Description of the unit and collaboration
Information Technology Programs		
Personal Development & Special Interest		
Forestry & Environmental Management, faculty of		
	Atlantic Cooperative Wildlife Ecology Research Network with the Senior Research Chair in Wildlife Ecology	Improving understanding of ecosystem dynamics, and to complement and enhance abilities of government to conserve wildlife populations and habitats.
	Cooperative Fish and Wildlife Research Unit	Conducting research related to the management and conservation of wildlife and fisheries resources and their habitats within New Brunswick and Atlantic Canada
	Environment and Sustainable Development Research Centre	ESDRC works to enhance the understanding and adoption of sustainable development principles through education, outreach, research and community involvement.
	Laboratory for Soils and Environmental Quality	Has provided operational support directly to centres of planting stock production; seed orchards and Christmas tree growers through its analytical services programs and indirectly through research and development. The laboratory's second focus is on the impacts of forestry practices and industrial activities on soil, watersheds and water quality.
	Nexfor/Bowater Forest Watershed Management & Conservation Research Centre	Developing a research program which will help resolve key issues regarding landscape dynamics and sustainable forest management, with watersheds as the primary management design units.
	Sustainable Forest Management.	This project examines how public involvement in forest management is undertaken in Newfoundland.
	Population Ecology Group	Investigating the roles of biotic and abiotic factors and individual behaviour on the abundance and distribution of animals in forested and agricultural systems, and subsequent influences on host plants.
	The Entomology Lab	Investigating the roles of biotic and abiotic factors and individual behaviour on the abundance and distribution of insects in forested and agricultural systems, and subsequent influences on host plants.
	The Forest Engineering/Geotechnical (Gillin) Lab	Handles geotechnical testing relevant to unbound roads
	The Greater Fundy Ecosystem Project	Research and monitoring effort to provide the science support necessary to manage an ecologically sustainable landscape.

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Unit & Sub-unit	Areas of Strength	Description of the unit and collaboration
	Wood Science and Technology Centre	WSTC has assisted companies in investigating the feasibility of new technologies and their implementation. Machine stress rated lumber, finger joined studs and structural I-joists are a few examples
Forest ecosystem management		
Forest engineering		
Graduate Degrees (Masters & PhD)		
Kinesiology, faculty of		
	Special Populations - Physical Activity, Biomechanics, Locomotion & Balance Disorders, Exercise Physiology/Biochemistry, Exercise Physiology/Biochemistry, Exercise Physiology/Biochemistry, Motor Control and Learning, Philosophy & Ethics, Resource Based Recreation, Volunteerism and Leadership, Gender Issues, History of Leisure and Sport, Sponsorshop and Partnership Arrangements, Sociology of Sport and Leisure, Marketing of Sport and Recreation Services, Information Technology in Sport/Sport and Recreation/Management, Pediatric Exercise Science, Sport and Exercise Psychology, Human Factors Engineering, Exercise and Sport Nutrition, Medical Imaging, Ergonomics, Pediatric Obesity.	
Recreation & Sport Studies program		
Kinesiology Science Program		
	Fitness Assessment Center	The Fitness Assessment Center is a facility that is dedicated to promoting the health and wellness of all individuals. We offer a variety of services that will be suitable to individual needs.
Law, faculty of		
BN Basic Program	A good selection of Law courses useful for international students. Students exchange: Australia, U.K, Denmark, Sweden.	
BN Advanced Standing Program		
BN/RN Program		
UNB - Humber Collaborative Program		

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Nursing, faculty of		
	Currently have a partnership with UMEA University in Sweden for undergraduate students to do exchanges.	Discussions are very preliminary. They are requesting collaboration at the Masters level. UMEA University in Sweden for undergraduate students to do exchanges
		Assumption University, Thailand. Research, collaborative degree program(s), students exchange
Renaissance College		
B.Phil in Interdisiplinary Leadrerhip Studies		
Science, faculty of		
Biology	Macroalgal systematics, combines field trips, scuba, etc., to bring samples back here to UNB for molecular work.	Collaborator: Dr Gerry Kraft, Department: Botany, Institution: University of Melbourne, Australia
		Collaborator: Dr John Huisman, Department: Biological Sciences, Institution: Murdoch University, Australia
		Collaborator: Dr David Ballantine, Department: Marine Sciences, Institution: University of Puerto Rico, Puerto Rico
		Collaborator: Dr Craig Schneider, Department: Biology, Institution: Trinity College, Country: CN, USA
		Investigation of LI818's role in photoprotection and the basis of very high-light resistance in Chlamydomonas.
Chemistry	Analytical, bioorganic, inorganic, organic, physical, pulp and paper, and theoretical chemistry	
	The international stature of the research in this department is reflected in the recent appointment of one of its members, Ajit Thakkar, as University Research Professor	Dr. Ajit Thakkar's research concerns predictions of the properties of molecules and interactions between pairs of molecules. Such predictions are made using numerically-intensive computational methods based on quantum mechanics.
	Development of novel approaches to the semi-synthesis of pharmaceutically important taxanes.	Paclitaxel (Taxol®) and docetaxel (Taxotere®), two taxane-based compounds, have been praised as the most important anticancer drugs to emerge from the pharmaceutical industry in the last 30 years. They are now widely used to treat breast, ovarian, non-small cell lung cancers, as well as Kaposi's sarcoma, and constitute a multi-billion dollar industry. A key strategy for

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		producing paclitaxel is that of semi-synthesis where one of its common metabolites is transformed by a chemical route.
	Development of "*Organic Chemistry Flashware*", a collection of interactive web-based multimedia courseware for teaching and learning college-level chemistry.	The courseware package, covers many aspects of introductory and intermediate-level organic chemistry, with an emphasis on reaction mechanisms, arrow-pushing notation and frontier molecular orbital interactions.
	Development of new and/or simpler ways to make biologically interesting and structurally challenging natural products.	Completed the total synthesis of (-)-cryptosporiopsin (anti-fungal and anti-biotic), epi-reisiwigin A (anti-viral), calicogorgin A and C, and manzamine C (anti-cancer and anti-malarial).
	Exploration of a range of metal hydrides with potential as hydrogen storage media (HSMs)	This research has been given much impetus recently with the declining reserves of hydrocarbons, with the environmental and geopolitical issues associated with fossil fuels, and with the development of hybrid and electric cars. Light metal hydrides like $NaAlH_4$, which contains a high percentage of hydrogen by weight, are attractive as on-board sources of H_2 in vehicular applications.
	Laser spectroscopy of gas-phase, metal-containing cluster compounds.	The study of these metal compounds, mostly small diatomic and triatomic species, have important implications in the understanding of what is happening at the surface of a metal during vapour deposition to produce silicon chips.
	Built *the only Canadian pulsed EPR spectrometer*, to purchase this spectrometer commercially would cost approximately 1.5 million dollars. The only research group that computes the hyperfine interactions of diatomics and triatomics that contain first row transition metals.	
	Study of the inner-shell spectroscopy and subsequent relaxation processes of core-excited molecules using time-of-flight mass spectrometry, Auger electron spectroscopy and excitation by both photoabsorption and electron impact.	Core excitation occurs in the VUV and X-ray regions of the electromagnetic spectrum and typically results in considerable ionisation and fragmentation of the absorbing molecule. A quantitative understanding of the inner-shell spectroscopy of molecules has applications as diverse as the accurate modeling of damage to tissue as a result of radiation exposure and an understanding of the chemistry of the upper atmosphere.
	Preparation of compounds that are counter intuitive, that is they appear to be impossible according to what was learned in the first year chemistry course.	The aim of this research is to synthesize compounds which fall into the following categories: 1. as simple as possible, 2. have novel bonding, 3. possess novel properties, and 4. simple and quantitative synthesis.

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	Chemical modification of electrode surfaces with thin films of porous inorganic solids.	The objective is to use the adsorptive and catalytic properties of the solids to improve the selectivity and sensitivity of the electrodes towards solution species.
	Control of the chemical and structural properties of surfaces; this is important for advances in a wide variety of academic and applied endeavors.	research program has evolved into two distinct areas that coincide with three- and two-dimensional surfaces. Design and Synthesis of Modified 3-D Surfaces: • Nanoparticles for Supported Chemistries. Design and Synthesis of Modified 2-D Surfaces: • Construction of TiO_2 Thin Films by Solution Phase Atomic Layer Epitaxy. • A New Strategy for Dye-Sensitized Solar Cells and the Production of Hydrogen via Photoelectrolysis of Water.
Geology	Structural geology, economic geology and environmental geochemistry	Hydrology, petrology, sedimentology, rock physics, hydrothermal geochemistry and impact geology
	This department houses the Planetary and Space Science Centre and the Ore Research and Exploration Group	
Mathematics and Statistics		Quantum theory, differential equations, applied probability, numerical analysis, noncommutative algebra, operator theory, mathematical modelling theory, differential geometry and geometric functional analysis, statistical decision theory, multivariate analysis, ring theory, sampling theory, operations research, scientific computation general relativity and cosmology, time series and mathematical biology
	Algebra	Research Interests: Noncommutative Algebra, Algebraic Geometry, C*-algebras and Noncommutative Topology, Groups, Rings, Nearrings, Discrete and Classical Geometry, Lie algebras, Lie rings, Geometry
	Applied Mathematics and Scientific Computation Group	Research ties with faculty in biology, computer science, engineering, forestry and physics. Research Interests: General Relativity; Quantum Gravity; Quantum Field Theory; Mathematical Finance and Scientific Computation, Generalized Linear Models; Survival Analysis; Random Effects Modelling; Environmental and Social Statistics, Mathematical Biology; Biological Invasions; Dispersal; Epidemiology.
	Relativity Group	Classical and Gauge Field Theories, Conservation Laws, Cosmology, Exact Solutions, Quantum Gravity, String and Related Theories, Scientific Computation, Spacetime Geometry, Spacetime Symmetries.

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	Statistics Group	Research Interests: Generalized linear models; survival analysis; random effects modelling; environmental and social statistics, Order-restricted inference: estimation and testing when order restrictions are present on the parameters of a population. Spline-regression problems, in particular estimation of change-points and the use of transforms in estimating regression parameters, Spatial statistics, random sphere packings, properties of composite materials, Inference for small samples --- including bootstrap techniques. Information and power, Time series, especially frequency domain methods. Stochastic processes, especially hidden Markov models. Generalized linear models.
	Applied Statistics Centre	Assists with data analysis, experimental design and other uses of statistical methodology. Statisticians are of most help at the planning stages of a data-gathering exercise: we have seen what can go wrong.
Physics	Atomic and Molecular Laser Spectroscopy	Laser Spectroscopy; Infrared and Microwave Spectroscopy; Nuclear Magnetic and Magnetic Resonance Imaging; Theoretical Studies; Theoretical Space Plasma Physics; Space & Atmospheric Physics; and High-Precision Theory for Few-Body Systems
	Atmospheric and Space Physics	Investigation of phenomena occurring in the atmospheres and plasmas associated with the Earth, Sun and solar system.
	Magnetic Resonance Imaging Centre	The UNB MRI Centre has invented a family of new MRI methods which permit the ready visualization of mobile and immobile ^{1}H containing structures not only in vivo, but in a large range of materials including concrete, polymers, composites, food materials and microporous solids. one of the largest and best known material science MRI laboratories world-wide and the leading university based laboratory of its type in North America. As the birthplace of the SPRITE MRI technique we are, by definition, one of the leading laboratories world-wide in many aspects of material science MRI.
Graduate Degrees (Masters & PhD)		

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Unit & Sub-unit	Areas of Strength	Description of the unit and collaboration
Research Centers and Institutes		
Atlantic Cooperative Wildlife Ecology Research Network	Forestry	The Atlantic Cooperative Wildlife Ecology Research Network (ACWERN) is a collaborative initiative from Acadia University, Memorial University of Newfoundland, and the University of New Brunswick in partnership with the Canadian Wildlife Service of Environment Canada (CWS), and with commitments of support from the Canadian Parks Service of Heritage Canada, the New Brunswick Department of Natural Resources and Energy, and the governments of Nova Scotia and Newfoundland.
CADMI Microelectronics, Inc.	Electrical and Computer Engineering	CADMI represents a true partnership among the university (UNB), government, and industry to provide state-of-the-art microelectronics technology transfer to New Brunswick businesses.
Canadian Centre for Geodetic Engineering (CCGE)	Geodesy and Geomatic Engineering	CCGE is committed to the research, development, and implementation of innovative precision surveying, deformation monitoring and analysis, and geomechanics solutions. The Centre's developments, methodologies, and software are in use world-wide, by government agencies, universities, and industry. Research goals are always driven by the emerging needs of industry.
Canadian Research Institute for Social Policy (CRISP)	Business Administration, Education, Kinesiology, Nursing, and Statistics	The aims of the Institute are to conduct policy research that will help Canadian communities provide better education and care for their children, to contribute to the training of social scientists in the areas of statistics and research methods, and to contribute to capacity-building efforts in developing countries.
Canadian Rivers Institute	Forestry, Biology, Physics	The mandate of the CRI is to teach and carry out multi-disciplinary basic and applied research focusing on river ecosystems, including their land-water linkages, for the purpose of conservation and habitat restoration. The objective of the CRI is to build a network of researchers with common interests in river science across universities, government, and industry. The CRI at Saint John focuses on the environmental impacts of industrial and agricultural operations with an Ecosystem Health Assessment Laboratory (K. Munkittrick), and a Fish Reproductive Physiology and Ecotoxicology Laboratory (D. MacLatchy). Developing undergraduate and graduate training in river sciences, and also seek to develop field-based, training opportunities for students and professionals in areas of river restoration,

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Unit & Sub-unit	Areas of Strength	Description of the unit and collaboration
		ecosystem sciences, and ecotoxicology.
Center for Entrepreneurial Leadership	Business Administration	The Center for Entrepreneurial Leadership has a mission to develop and support entrepreneurial leadership among students, faculty, and growth-oriented businesses in New Brunswick.
Center for International Business Studies	Business Administration	The Center for International Business Studies (CIBS) was established to develop and support the international competitiveness, knowledge and skills of students, faculty, and growth-oriented businesses in New Brunswick.
Centre for Conflict Studies	Social Studies, Arts	A leader in the field of low-intensity conflict since 1980, the Centre is the only organization in Canada that focuses exclusively on revolutionary and civil wars, political terrorism, covert operations, unconventional warfare, intelligence services, propaganda, and the role of the media in modern warfare.
Centre for Nuclear Energy Research, Inc.	Chemistry, Control Systems, Nuclear Engineering	The Centre for Nuclear Energy Research is devoted to conducting research and development work in the areas of nuclear energy associated with the operation and maintenance of nuclear power stations. The Centre, affiliated with the department of Chemical Engineering, collaborates with Atomic Energy of Canada Ltd. and the NB Research and Productivity Council.
Centre for Property Studies	Economics, Law, Geodesy and Geomatics Engineering	The Centre for Property Studies is a globally accessible resource for research, training, information-sharing, networking, and advice in the field of property studies. The Centre has adopted a multi-disciplinary approach, emphasizing the role of property in economic and social development, in poverty reduction, and in sustainable resource and environmental management.
Centre for Enhanced Teaching and Learning		CETL offers services to support your teaching and learning in the following areas: Professional Development; Classroom Support; Smart Classrooms and Videoconferencing; Media Production; Multimedia Labs; Training Opportunities; Instructional Design; Consultation, Coordination, Assistance

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Construction Technology Centre Atlantic, Inc. (CTCA)	Civil Engineering	Since its inception in 1988 as a non-profit organization, the Construction Technology Centre Atlantic (CTCA) has served construction industry members by providing a personalized bridge to the implementation of the most recent developments in construction technology. Transferring technology and brokering innovation for the region's Architectural, Engineering, Construction industry.
Electronic Text Centre		The Electronic Text Centre works collaboratively with various University departments and external organizations on research initiatives dealing principally with archival and publishing issues for electronic resources. As part of its mandate, the Centre applies its research to support the technical and educational needs of University of New Brunswick faculty, students, and other organizations for the development of Web-based publishing projects.
Environment and Sustainable Development Research Centre		The Centre was established in 1994 with initial funding from the Environmental Trust Fund and UNB. The Centre provides a focal point between the university, the private sector, government and the public.
Institute for Materials Visualization and Analysis		The Institute for Materials Visualiztaion and Analysisi is a nucleus for research expertise in the visualization and analysis of materials at nanometer to cm scales. This expertise exists within three participating groups, The Laboratory for Threat Materials Detection, the Magnetic Resonance Imaging Centre, and The Microscopy and Microanalysis Facility. The research facilities within the Institute are accessible either through collaboration with Institute members, or through direct pay-for-service arrangements.
Institute of Biomedical Engineering	Electrical and Computer Engineering, Mechanical Engineering, Biology, Physics	The Institute brings together an interdiciplinary research team to investigate a broad range of topics, all related to designing systems and equipment that meet human physical requirements or medical needs.
Information Technology Centre (ITC)		The ITC assists and supports the growth of the Information Technology industry in New Brunswick. It was established through support from the Canada-New Brunswick Cooperation Agreement and the University of New Brunswick. The Centre focuses on conducting research, providing courses, and peforming usability evaluations.

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Dr. Jack McKenzie Limerick Pulp & Paper Research & Education Centre		The objectives of the Centre are to perform world-class R&D work in selected pulp and paper areas, to provide relevant education to university and industry students, to collaborate with industry and government on R&D projects, and to provide testing, technical, and library services to organizations in the Atlantic Provinces.
Muriel McQueen Fergusson Centre for Family Violence Research	Arts, Public Education The Muriel McQueen Fergusson Centre for Family Violence Research at UNB has the mandate to promote interdisciplinary research aimed at understanding, treating and preventing family violence and violence against women. The strength of the Centre lies on the collaboration between academic and community members.	The Centre works in close collaboration with the Alliance of Canadian research centres on violence that are located in Quebec, Ontario, Manitoba, Saskatchewan, Alberta and British Columbia. Please visit our webpage for all on-going research and education programs at the Centre: http://www.unbf.ca/arts/CFVR/
Planetary and Space Science Centre	Physics	The Planetary and Space Science Centre (PASSC) at UNB facilitates education, research, and resource evaluation pertaining to our Solar System. PASSC houses the national Canadian Planetary Image Facility, a NASA-supported outlet for space and planetary data. Current expertise concerns impact cratering and shock processes on the terrestrial planets.
Second Language Education Centre		The Second Language Education Centre (SLEC) was established in 1987 to address needs related to teacher education, professional development, curriculum development, research, and evaluation in the field of second language (SL) education. It provides SL educators with current information related to SL learning and teaching. The Centre also conducts research and programs with an international focus in the area of SL learning.
Wood Science and Technology Centre	Forestry, Biology, Physics	The Wood Science and Technology Centre at UNB is committed to helping wood products manufacturers remain competitive. Numerous Canadian firms have been assisted in meeting global market demands with innovative technologies and quality products.