



PROJECT PRESIDENT 2011





On March 1, 2011, Dr. Glenn Feltham became the sixth president of NAIT, the Northern Alberta Institute of Technology.

How do you introduce a new leader to a 50-year-old polytechnic with 200 credit programs, 34 apprenticeship trades, and 1,400 continuing-education courses? It was a daunting task.

As much as we wanted to get to know Dr. Feltham, we wanted him to get to know who we are, what we do, and to discover – hands-on, alongside our students – the breadth and depth of the technical education NAIT offers. And, along the way, our goal was to get to know ourselves better, to truly understand and appreciate what we mean by our brand statement, Education for the Real World.

More than anything, we wanted to prepare Dr. Feltham to lead NAIT into the future.

This is how we did that. This is Project President.



Week 1 (March 1 – 4, 2011)

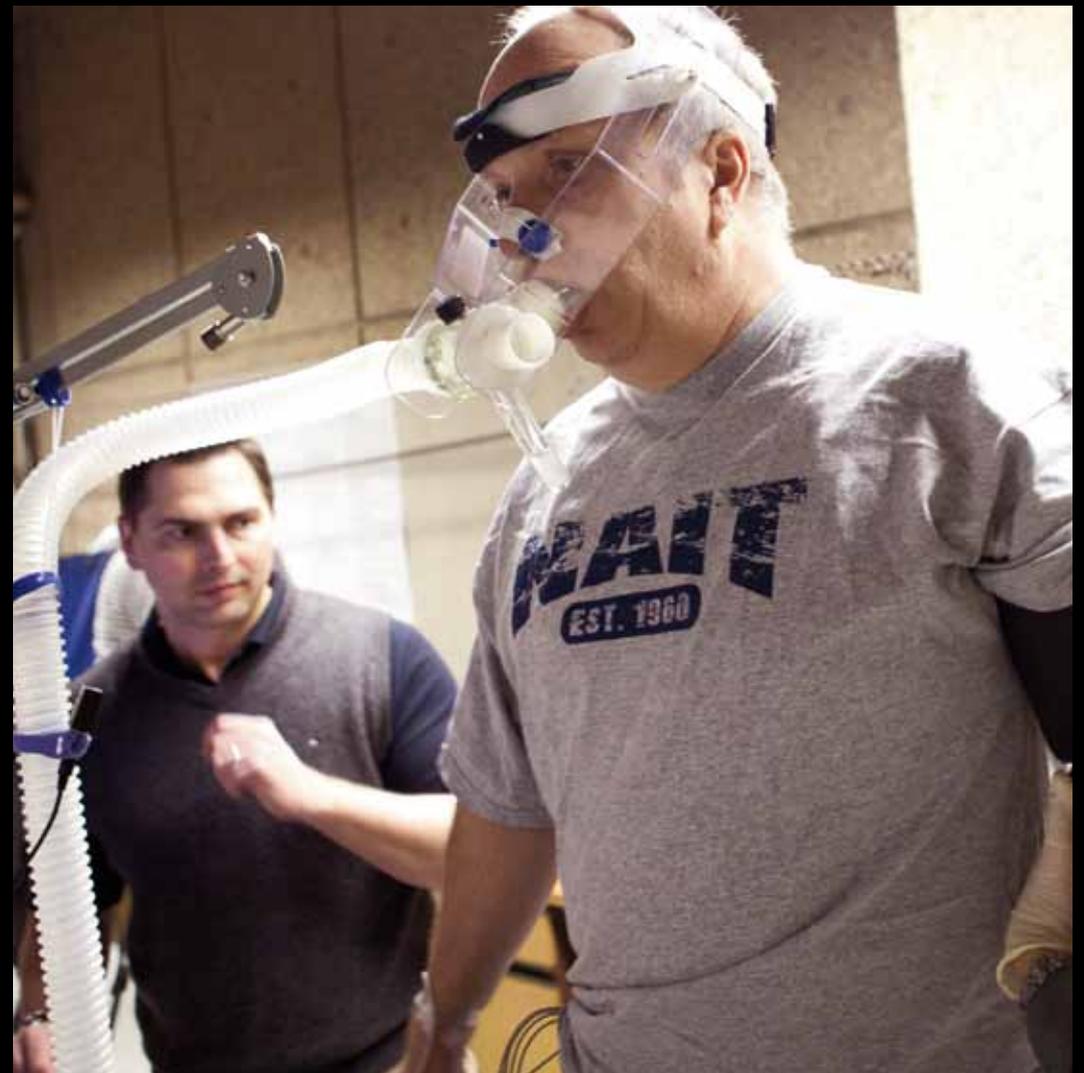
Personal Fitness Trainer

A priority for Dr. Feltham in assuming the role of president was to develop healthy eating and exercise habits from the outset. As he noted, “NAIT and I were born in the same year – but NAIT’s holding up better.”

Dr. Feltham understands the importance of health to an effective leader and has decided to make fitness a priority. To help him with this quest, NAIT’s Personal Fitness Trainer program staff administered physical and nutritional assessments, including VO2 max testing, a definitive measure of fitness.

Personal fitness trainer Kevin Murray, a 2009 graduate of the NAIT program, worked with Dr. Feltham over his first eight weeks and instructor Karena Apps Eccles designed a nutrition plan. Throughout Project President, his progress was measured and tested with the Personal Fitness Trainer program staff and Medical Laboratory Technology program staff and students.





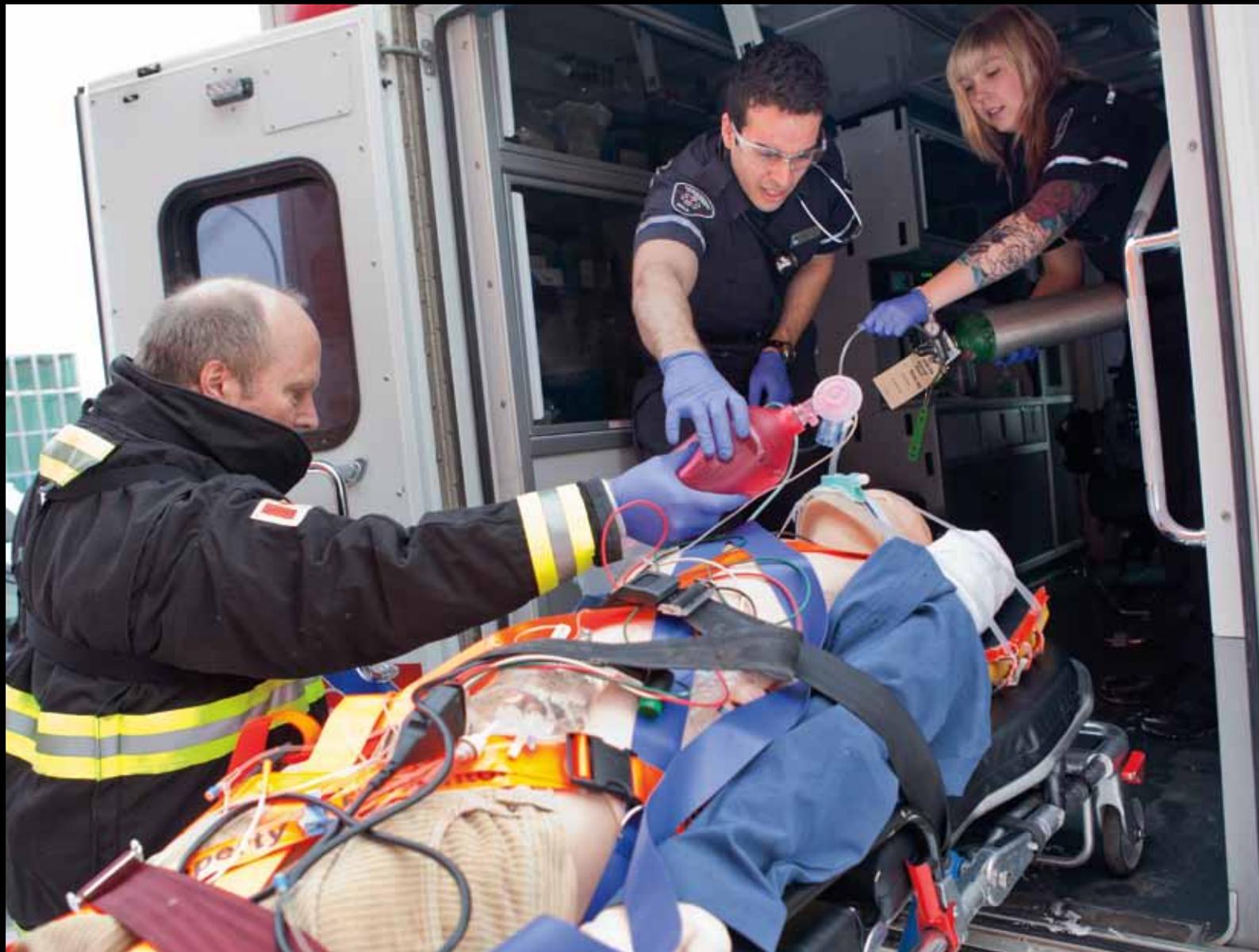
Week 1 (March 1 – 4, 2011)

Emergency Medical Technology – Paramedic

Dr. Feltham joined Emergency Medical Technology – Paramedic program students in two simulations, to recreate real-life experiences in a controlled, safe environment.

Playing the role of fire captain in a bar fight simulation, Dr. Feltham worked alongside paramedic students and helped to ventilate the victim. As a participant in a simulated heart attack scenario, Dr. Feltham provided the responders with valuable information about the victim.

Participating in the simulation gave him a greater understanding of the relevance of NAIT programs. “If someone is having a heart attack, it’s going to be someone from NAIT that saves you,” he says. “Ultimately, there’s a doctor along the line, but that first response, that’s NAIT.”





Week 2 (March 7 – 11, 2011)

Forest Technology

Dr. Feltham dropped in on second-year Forest Technology program students in their week-long survival lab at Kidney Lake, 57 kilometres northwest of Whitecourt.

Simulating a winter survival situation, the students lived in lean-tos they built. Lessons included how to build a snow quinzhee and a signalling fire, as well as wilderness first aid. Students also competed to be the first to start a fire, melt snow and bring the water to a boil.

“We want to give our students the survival skills to take care of themselves,” says instructor Chris Klitbo, “with the hope they won’t end up in a situation where they have to use them.”





Week 2 (March 7 – 11, 2011)

Digital Media & IT

While helping Digital Media & IT students produce a music video for a local band, Dr. Feltham operated a camera and directed a scene alongside a student director. He even made a cameo appearance as a zombie, thanks to makeup.

“There were probably about 20 people on set,” Dr. Feltham observes, “all of whom had to work effectively together to make this work.”





Week 3 (March 14 – 18, 2011)

Welder

During his visit to the Welder program at Souch Campus, Dr. Feltham was struck by the size and cleanliness of the facility, and how organized it was. But what excited him most was the chance for some friendly competition: a “weld-off” with Peter Lawlor, dean of the School of Trades.

In addition to observing Welder apprentices in action, Dr. Feltham tried his hand at this skilled trade. Under the guidance of program instructors, he and Lawlor attempted three different types of welds, which were then graded by the instructors.

“I clearly lost,” Dr. Feltham admits with a laugh.

“I don’t know about that,” says Lawlor.





Week 3 (March 14 – 18, 2011)

Millwork & Carpentry

“The academics in the Millwork & Carpentry program really aren’t academics in the conventional way,” says Dr. Feltham. “They’re artisans. They’re people who fall in love with a piece of wood, who work magic with the grain – and they work with the students to help them understand that.”

The program, he says, is a fascinating combination of the old and the new: instructors and students create pieces that maintain the centuries-old traditions underlying their craft, but also use the most modern technologies available.





Week 3 (March 14 – 18, 2011)

Animal Health Technology

“We all understand the role veterinarians play in the care of animals,” says Dr. Feltham, “but we don’t think about the role others play in working with the animals” – roles often filled by NAIT grads.

He recognizes the true importance of those roles in preparing animals for surgery, drawing blood, doing tests and all the vital maintenance that keeps clinics running and animals healthy. “Veterinarians would not be able to do what they do in this province without NAIT grads.”





Week 3 (March 14 – 18, 2011)

Hospitality Management and Culinary Arts

In his visit with the Hospitality Management and Culinary Arts programs, Dr. Feltham spent the morning in the kitchen with renowned Canadian chef Susur Lee. There, he helped plate the meal for an exclusive luncheon, a marquee event of the Hokanson Chef in Residence program that brought Lee to NAIT.

“There’s every bit as much artistry and precision in what they do as there is in fine art,” says Dr. Feltham. The president went on to liken the process of preparing and presenting the three-course meal to “choreography.”

The value of having Lee at NAIT was clear to Dr. Feltham. “He is a great chef,” says the president. “Moreover, he is a great teacher.”





Week 4 (March 21 – 25, 2011)

Water and Wastewater Technician

As part of a tour of NAIT Calgary campus, Dr. Feltham visited the Water and Wastewater Technician program, which launched in Calgary in September 2010 and has been offered in Edmonton for many years. Dr. Feltham was very impressed with the lab and its focus on hands-on training.

“The technical training that we provide is ensuring that our industry will be in good hands for years to come with the next generation of operators,” says Darren Demchuk, Water and Wastewater Technician program chair.

“There is nothing more precious than water. Our safeguarding of this resource, providing Albertans a safe, secure source, is something we should all be proud of,” Dr. Feltham says.





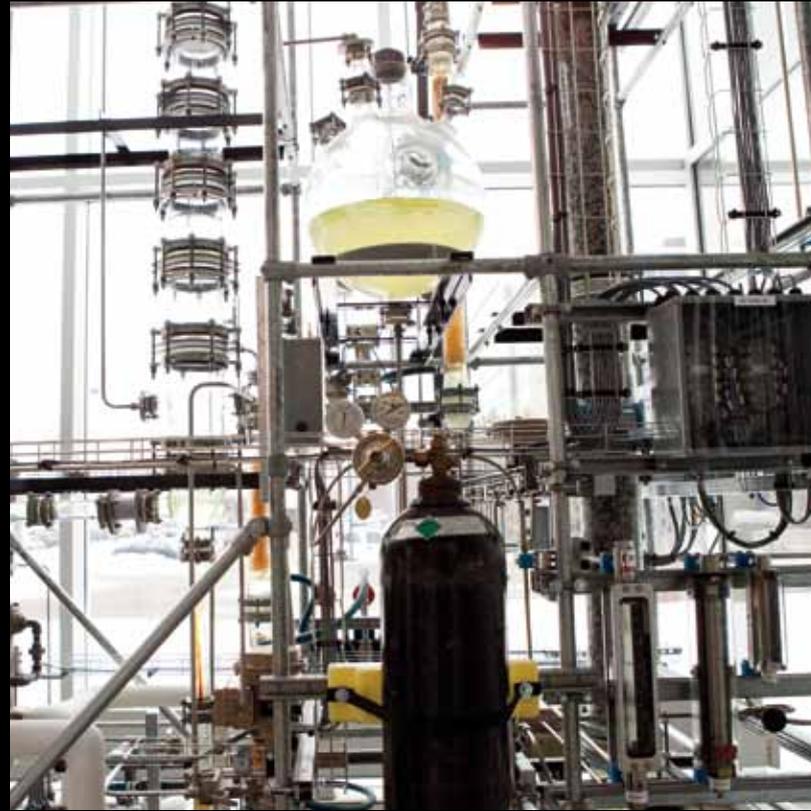
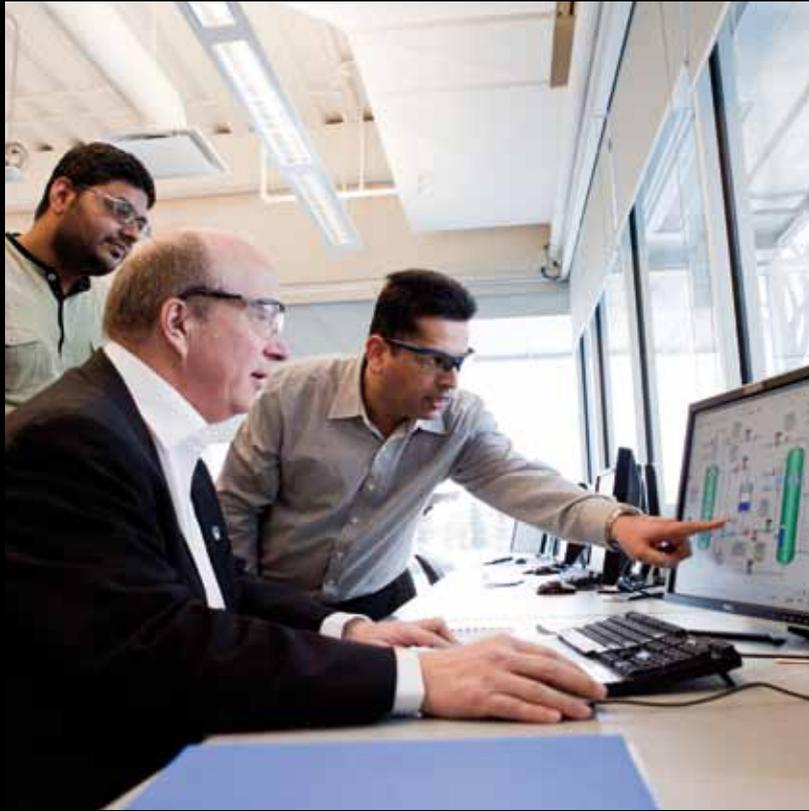
Week 4 (March 21 – 25, 2011)

Petroleum Engineering Technology and Chemical Engineering Technology

Ever wonder how a refinery works? Dr. Feltham had the opportunity to find out by visiting the Petroleum Engineering Technology and Chemical Engineering Technology programs.

Dr. Feltham started up the main campus pilot plant, which resembles a real-life natural gas sweetening plant. Sweetening is the removal of toxic and acid gases from natural gas. Dr. Feltham participated in a process using an absorber stripper unit, in which carbon dioxide was removed from air, simulating sweetening.





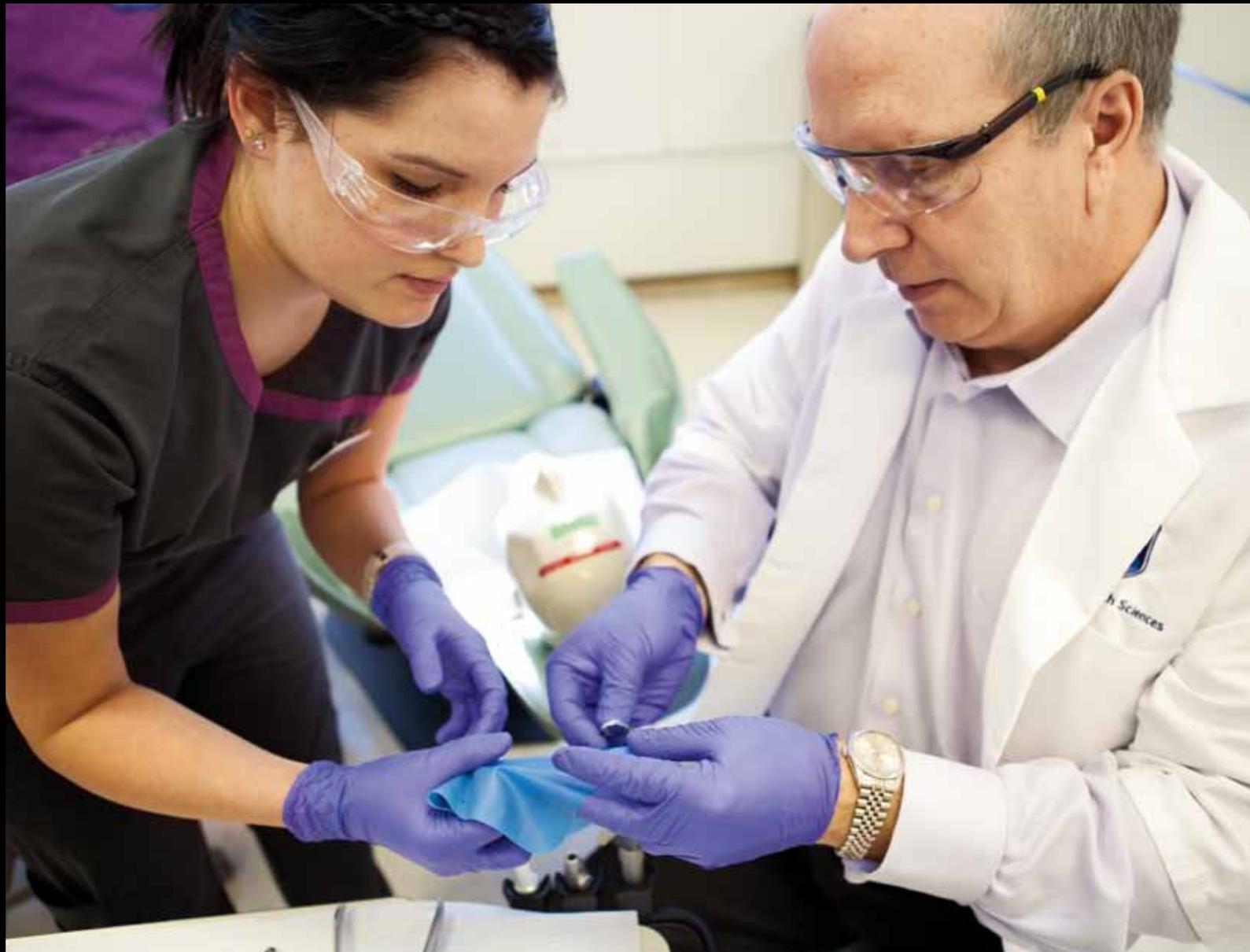
Week 5 (March 28 – April 1, 2011)

Dental Assisting

In the Dental Assisting program lab, Dr. Feltham worked with two students to place a dental dam on a mannequin, under the guidance of instructor Joanann Bowen.

A dam is cut to fit around and isolate teeth needing treatment. It blocks the tongue, prevents debris from entering the throat, and keeps a clean workspace for the dentist. One of the challenges in making a dental dam is cutting holes to correspond with the arch of the mouth and location of the teeth.

“I was amazed by the complexity of this task and the skills required to do something this elaborate and to do it well,” says Dr. Feltham. “It was really quite humbling as I tried to do it myself.”





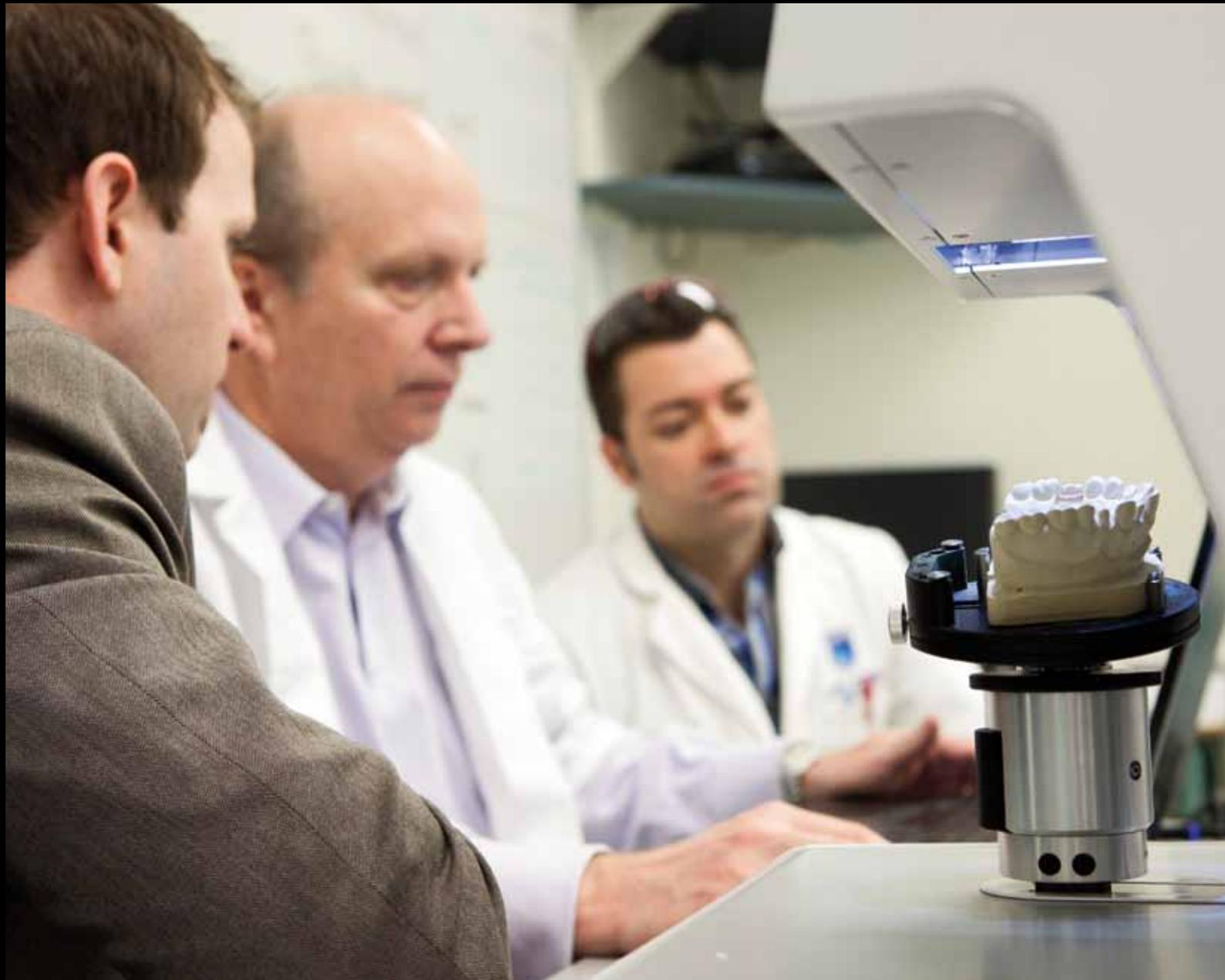
Week 5 (March 28 – April 1, 2011)

Dental Technology

In the Dental Technology program, associate chair Jason Lohr taught Dr. Feltham how to fabricate a dental crown, in this case a molar, using a metal alloy and tools including a 1,400 C torch. As well, a student taught Dr. Feltham how to prepare a porcelain crown.

“There’s a lot of science involved in this program,” says Dr. Feltham. “In both dental programs, the technology we provide means that our students are learning not just for today, but they are learning the techniques and the tools that are going to take them well into their careers.”

The molar he made now sits on his desk.





Week 5 (March 28 – April 1, 2011)

Auto Body Technician

In the Auto Body Technician program Dr. Feltham learned about auto body painting, spot welding and airbag deployment from apprentices and instructors Bryce Nelson, Ryan Pomedli and James Foss. He also resumed competition with School of Trades dean Peter Lawlor, this time in a “paint-off.”

They each spray-painted car hoods using the latest technology and techniques. Two apprentices then judged the paint jobs, giving Lawlor 75 per cent and Dr. Feltham 60 (his paint job, they said, was blotchy).

The visit also highlighted other leading-edge technologies used to determine the extent of frame damage following an accident. Dr. Feltham was impressed to learn that less than five per cent of auto body shops have equipment this advanced.





Week 5 (March 28 – April 1, 2011)

Sheet Metal Worker

Dr. Feltham visited the Sheet Metal Worker program during his tour of Patricia Campus and worked with instructor Grant Craplewe and apprentices to learn how to make a dustpan and create an air duct. He was amazed by the skill necessary to complete this task and the different equipment that had to be used.

“The number of folds I had to make in the metal and the amount of equipment I had to use – and use appropriately – to make this dustpan surprised me.”

The biggest realization for Dr. Feltham during the program visit was the amount of mathematics involved. “One of the first things we had to do to was determine how we were going to lay this out and there was a fair degree of geometry involved.”





Week 5 (March 28 – April 1, 2011)
Radio & Television – Television

Dr. Feltham worked on preparing a live story for *NAIT NewsWatch*, a half-hour news magazine produced weekly by the Radio & Television – Television program. He had to conceive, research and write it himself, then work with a student videographer to film interviews and B-roll footage. He then edited it and presented it on the April 1 edition of the show.

To prepare for the live newscast, Dr. Feltham sat in on the production meeting with the students. With assistance from instructor Jeannette Cable, one student led the meeting, running through everyone's parts for the entire newscast and impressing Dr. Feltham with the many production aspects – and technology – involved in going to air.



NAIT
NEWS
WATCH



Week 5 (March 28 – April 1, 2011)

Radio & Television – Radio

Dr. Feltham was in the radio booth for his visit with the Radio & Television – Radio program. The process fascinated him. “It was all pretty neat, but actually kind of stressful because it has to move along so quickly,” he says.

Most of all, he was impressed with the high level of comfort the students had in talking on air. The students led him through the process, while Patrick Galenza, chair of the Radio program, offered only occasional assistance.





Week 6 (April 4 – 8, 2011)

Crane & Hoisting Equipment Operator – Boom Truck and Mobile Crane

With the Crane & Hoisting Equipment Operator – Boom Truck and Mobile Crane programs, Dr. Feltham received hands-on instruction on equipment alongside first-year apprentices. He was struck by the finesse required to operate this machinery and the importance of mathematics. Equipment must be positioned perfectly, loads must be calculated, and every part of the operation must be meticulously planned before a lift takes place.

“Unlike some other professions where you can make a mistake and just ... start over, if you make a mistake with a crane, it ends up on the front page of the paper,” says associate chair Lorne Strachan.





Week 6 (April 4 – 8, 2011)

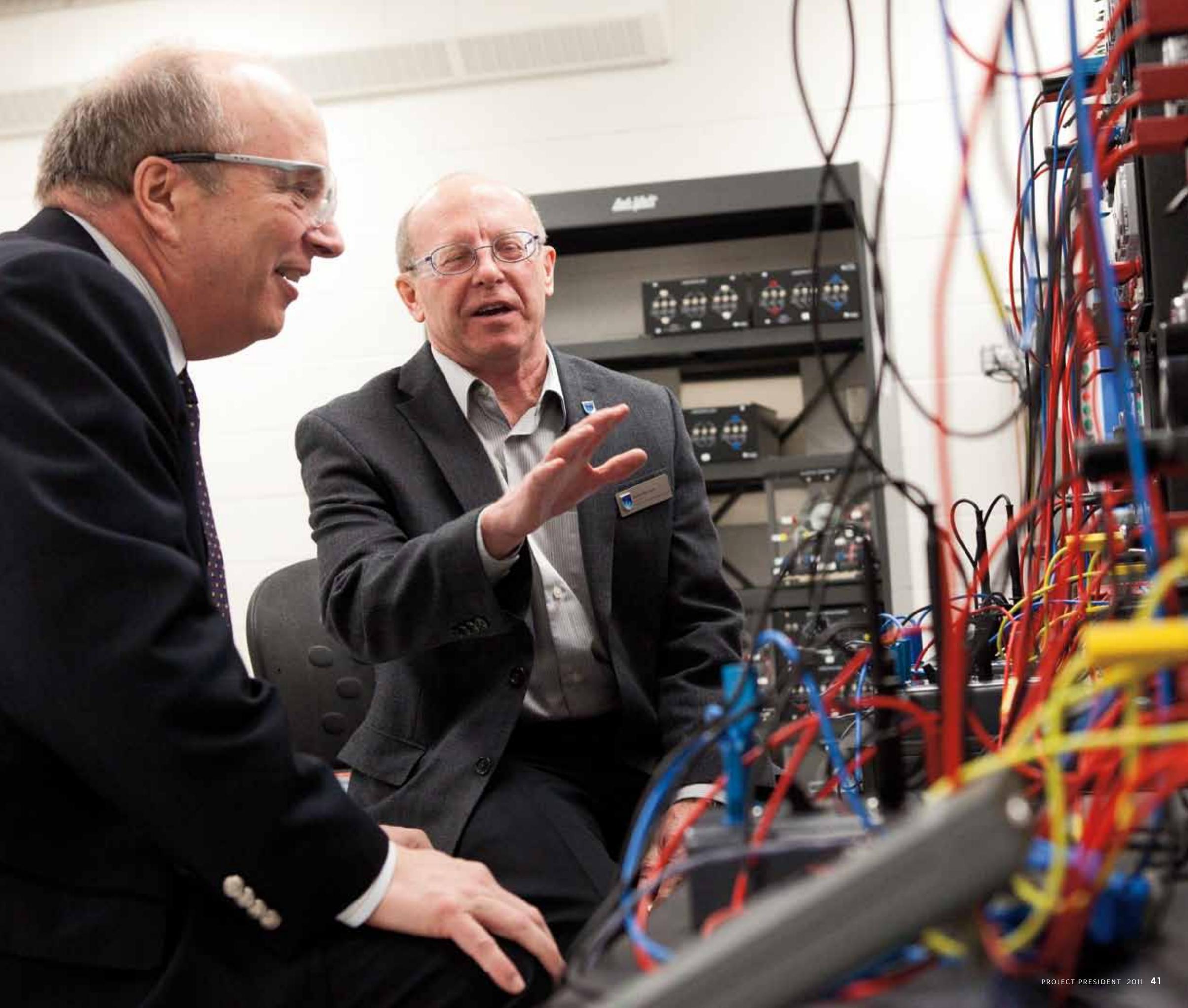
Electrician

Dr. Feltham began his visit to the Electrician program with a tour of the heating controls lab from instructor Kendall Solbak, who explained different furnaces and heating systems. Next, instructor Wilbur DeVries taught Dr. Feltham how to program a Programmable Logic Controller, a device used to computerize controls for electricity and services in a home or building.

Associate chair Kevin Harrison worked with Dr. Feltham on generator sets and taught him how to parallel a second generator with the first to increase available wattage while avoiding damage, explosions and brownouts.

“I got to see the importance of simulation as a learning tool at NAIT,” says Dr. Feltham. “Apprentices can simulate different types of systems in a fairly risk-free environment to determine what they would do for a particular wiring job before they do it.”





Week 6 (April 4 – 8, 2011)

Biological Sciences Technology – Laboratory & Research

After extracting DNA from a banana with Biological Sciences Technology program associate chair Jim Wickware, Dr. Feltham went to a second-year lab where students were sectioning rat pancreases and preparing them for viewing. Instructor Karen Wendt guided him through the process of cutting the material for microscopic examination.

The students, many of whom will end up as technicians in universities or government laboratories, then determined the concentration of proteins and cell shapes as possible indicators of diabetes.





Week 6 (April 4 – 8, 2011)

Ironworker, Boilermaker, Structural Steel & Plate Fitter

Dr. Feltham visited Souch Campus to learn about three closely aligned programs: Ironworker, Boilermaker and Structural Steel & Plate Fitter (Steel Fabricator) programs. This is the only campus in Alberta where all three trades receive technical training.

To experience a task a Boilermaker apprentice would encounter, Dr. Feltham and dean of trades Peter Lawlor took turns tightening a flange on a pressure vessel under the tutelage of program chair Glen Gibson.

To learn about the Ironworker program, Dr. Feltham and Lawlor were paired with apprentices to secure a rafter, lifted by crane, between two columns built by a steel fabricator. They also made a tour of an ironworker shop, where Dr. Feltham learned about working on swing stages, walking up I-beams, and how to read blueprints and identify errors.





Week 6 (April 4 – 8, 2011)

Chemical Technology

To start his visit to the Chemical Technology program, which celebrates the International Year of Chemistry in 2011, Dr. Feltham worked in the analytical spectroscopy lab with second-year students to analyze samples of water from the executive office. He was looking for trace heavy metals and other chemicals.

Next, Dr. Feltham visited the organic/inorganic chemistry lab and talked to two students who won third place at the Western Canadian Society of Chemical Technologists Western Students Symposium for their project to make a first-year organic chemistry experiment greener by using fewer toxic chemicals.

Finally, Dr. Feltham visited the industrial and physical chemistry lab where students undertake experiments related to oil sands research and fertilizers. One student team was working to replace harsher chemicals used in the labs with safer alternatives – research that has applications in industry.





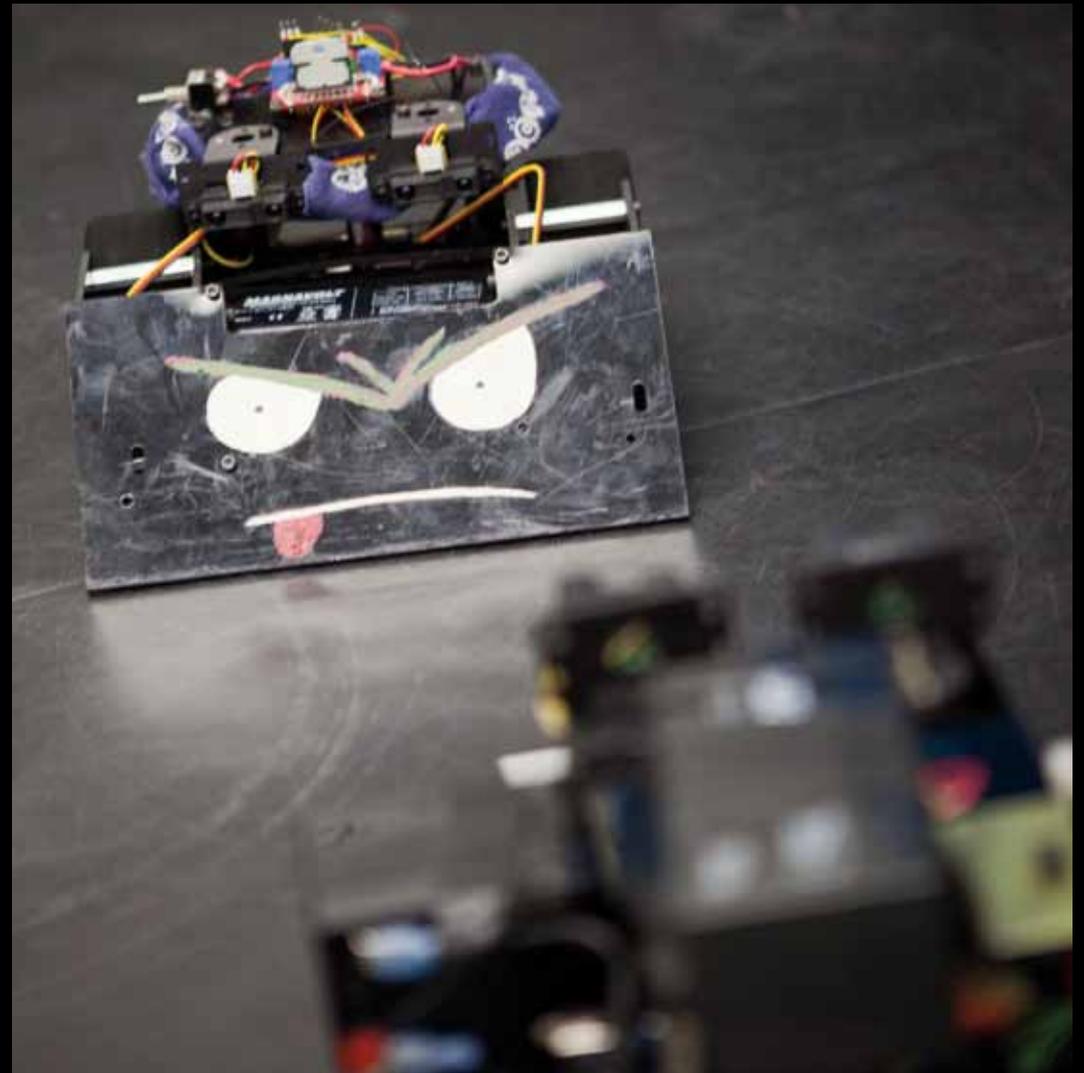
Week 6 (April 4 – 8, 2011)

Electronics Engineering Technology

Thinking he had found a new favourite toy, Dr. Feltham took a police robot prototype built by NAIT researchers for a spin down the hallway. With the help of Maysam Saleh (a technical researcher for the School of Information Communication and Engineering Technologies and a 2009 Electronics Engineering Technology graduate), he learned not only how to handle the controls, but how to navigate using the view through the video camera mounted on the robot.

Dr. Feltham then had a lesson in sumo robotics with second-year Electronics Engineering Technology program students, who had just finished designing, building and programming robots. Once the students completed their robot projects, they let their robots duke it out to determine a winner. During the battles, they explained their design choices and advantages of their robots to Dr. Feltham.





Week 6 (April 4 – 8, 2011)

Instrumentation Engineering Technology

Dr. Feltham started his visit to the Instrumentation Engineering Technology program with an overview of the computer system used to operate its distillation unit. Together, with associate chair Robbin Law, they ran through a troubleshooting exercise and along with program chair Andy van der Veen, they made adjustments to processes occurring in the unit.

Dr. Feltham also toured a number of different areas, including the process instruments lab where students measure temperature levels, turbines, tanks and flows, as well as the instrumentation maintenance shop where staff build instrumentation equipment for use in the program or to sell to industry.





Week 7 (April 11 - 15, 2011)
Electrical Engineering Technology

Before starting his visit to the Electrical Engineering Technology program, Dr. Feltham reviewed safety measures with instructor Susan Peterson. Peterson walked Dr. Feltham through the steps of preparing a safe work plan.

Following that, Dr. Feltham learned how to install and remove high voltage vacuum power circuit breakers and how to use a breaker analyzer to perform operation timing tests.

"This visit was very different than what I expected," says Dr. Feltham. "From the size and weight of the equipment to the checklists required to get next to any of it - and the Kevlar suit I had to wear - the seriousness of it surprised me."





Week 7 (April 11 – 15, 2011)

Retail Meatcutting

Before Dr. Feltham went to the Retail Meat Store to work with the Retail Meatcutting program, he was stopped by a lady who asked him to help carry her purchases to her car. As he helped her, he learned she has been buying meat for her family from NAIT for the past 20 years.

Inside the store, Dr. Feltham worked each of its departments – beef, pork and sales – with assistance from chair Dan Westgeest. To start, he learned how to make roulade, a German meat roll that usually contains bacon, onions, mustard and pickles and is wrapped in a thin slice of beef. Next, he cut T-bone steaks with a student and learned how to scrape them for merchandising. Then, he helped students at the pork table make chorizo sausage before learning how to bone and section a chicken at the sales table.





Week 7 (April 11 – 15, 2011)

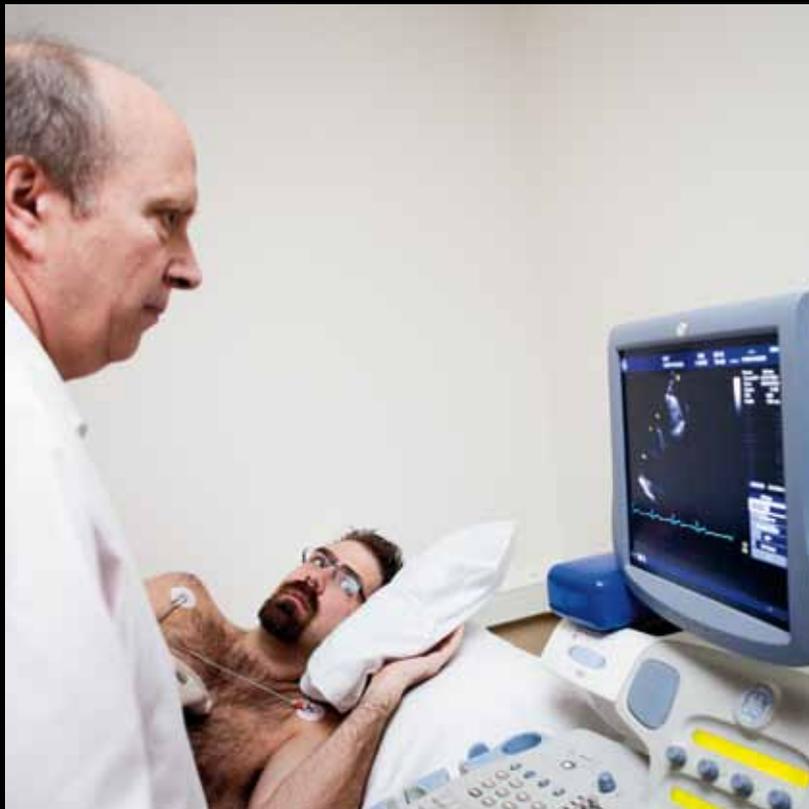
Diagnostic Medical Sonography

“Today, we’re going to see if the president really has a heart,” quipped Dr. Feltham as he headed into the Diagnostic Medical Sonography lab. The visit began with a cardiac ultrasound performed on him by instructor Eileen Knops. Knops gave Dr. Feltham a very detailed tour of the parts of his heart and what each does, as well as how and where the blood flows and what she would expect to see on this type of scan.

Next, Knops measured Dr. Feltham’s blood flow. She also measured his heart and performed electrocardiography, which ensures that measurements are being properly taken.

The verdict after the tests? “The president has a heart and it’s beating just fine,” says Dr. Feltham. Later, he had a chance to learn to perform a cardiac ultrasound.





Week 8 (April 18 – 22, 2011)

Respiratory Therapy

In the Respiratory Therapy program, Dr. Feltham participated in a patient transport simulation lab with the students. Each team had a critically ill, intubated asthmatic patient (mannequin) in respiratory distress who needed to be moved from the simulated intensive care unit for diagnostic scanning.

As the students and Dr. Feltham travelled the hallways during the simulation they encountered various challenges, including the patient going into ventricular tachycardia (a dangerously fast heart rhythm), the portable oxygen tank running out, and the accidental removal of the ventilation tube, which caused the patient's heart to stop.

"During this simulation I was able to see the level of complexity involved in transporting a patient," says Dr. Feltham.





Week 8 (April 18 – 22, 2011)

Materials Engineering Technology

Before his activities with Material Engineering Technology, Dr. Feltham was suited up with safety gear including a radiation detection unit and a film badge, which is regularly sent to the government to monitor accumulated radiation exposure.

Using the welds Dr. Feltham and School of Trades dean Peter Lawlor made while visiting the Welder program, instructor Steve Triolaire demonstrated several methods to test the structural integrity of metals.

In the radiographic inspection lab, Dr. Feltham X-rayed the welding samples in the radiation bunker. In the magnetic particle inspection area, he learned how to magnetize a part to look for breaks and cracks. Lastly, he used a machine at the “wet bench” to detect fine cracks.

Dr. Feltham also visited the metallurgy lab, where he competed with a student to polish a metal sample to a mirror finish, and using the microscope, determine the composition. “Our students understand the properties of metals, what happens when you combine different metals and what happens under different environmental conditions to those metals,” says Dr. Feltham.

“They’re the ones who will tell you whether an I-beam has the strength to carry the load it is expected to carry or whether a weld will actually hold.”





Week 9 (April 25 – 29, 2011)

Machinist

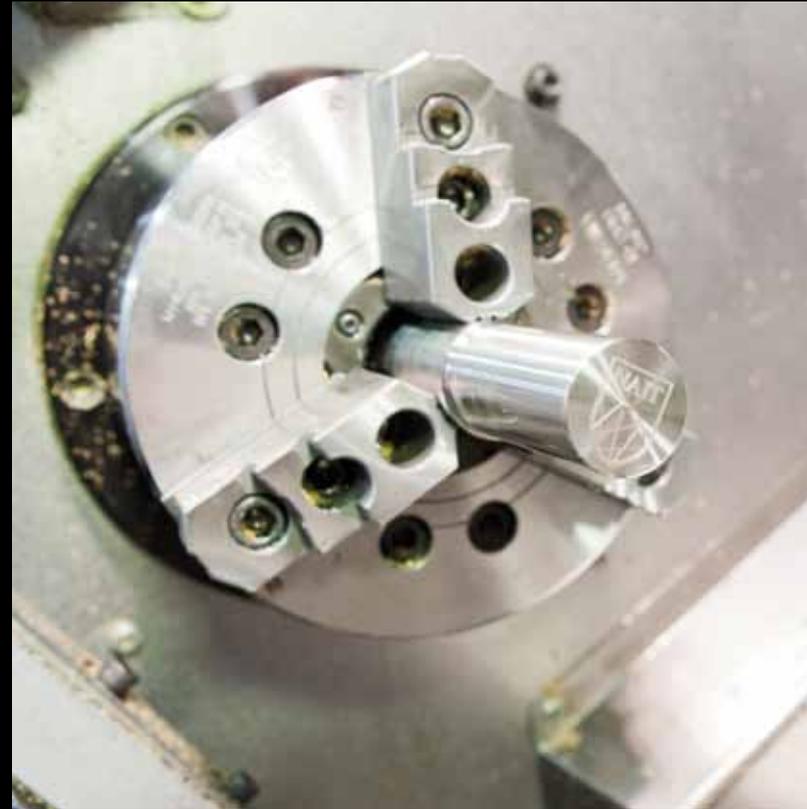
Instructor Phil Stagg took Dr. Feltham on a tour of the shop, where they watched apprenticeship students work on their final practical test, making and assembling parts. For this, each apprentice was given a blueprint and had seven hours to machine the part.

Then it was Dr. Feltham's turn. Instructor Jerry Muise taught him how to write a program to set up the CNC lathe to produce the part, and then run the lathe to machine it.

During a return visit, Dr. Feltham focused on the CNC Machinist Technician program. Machinist instructor Phil Townsend worked with Dr. Feltham to make a "cube inside a cube," showing him how to set up and run the horizontal milling machine to produce it.

"I was told the secret of how to create the cube within a cube and it's pretty cool, kind of like the 'Caramilk secret,'" says Dr. Feltham. "It requires a great deal of thought to figure out how to keep the block of metal stable as you carve the inside out." With instructor Ryan Reeves, he also made a wine stopper out of food-grade stainless steel.





Week 9 (April 25 – 29, 2011)
Medical Laboratory Technology

Dr. Feltham made a third visit to the Medical Laboratory Technology program, following two previous trips for blood samples for his lipid profile test. This time, he worked with a student to program a blood analyzer to run 10 different tests on six samples from another patient, transferring the samples from test tubes into tiny vials for analysis. Students are able to determine blood type, perform thyroid and kidney function as well as many other tests. In fact, 85 per cent of a doctor's diagnosis is based on medical laboratory analysis.

While there, students explained the results of his lipid profile test. As well, Audrey Dyke, associate chair, explained what the other students in the class were doing. One activity in particular piqued Dr. Feltham's interest: the students were testing different blood samples for THC, the active ingredient in marijuana.





After nine weeks, four schools and 35 programs, what did our new president learn from this unique orientation experience?

“The more programs I visited, the more I find that people really find their calling at NAIT. They match their passions and competencies to a career,” says Dr. Feltham. “In each program, I see the quality of the people, the students, the faculty, the staff and their desire to take a great institute and a great program and make it even better.

“At several points, students became instructors or graders which added a really interesting dimension to the visits. I was very impressed at the students’ abilities to explain things to me that were very complex.

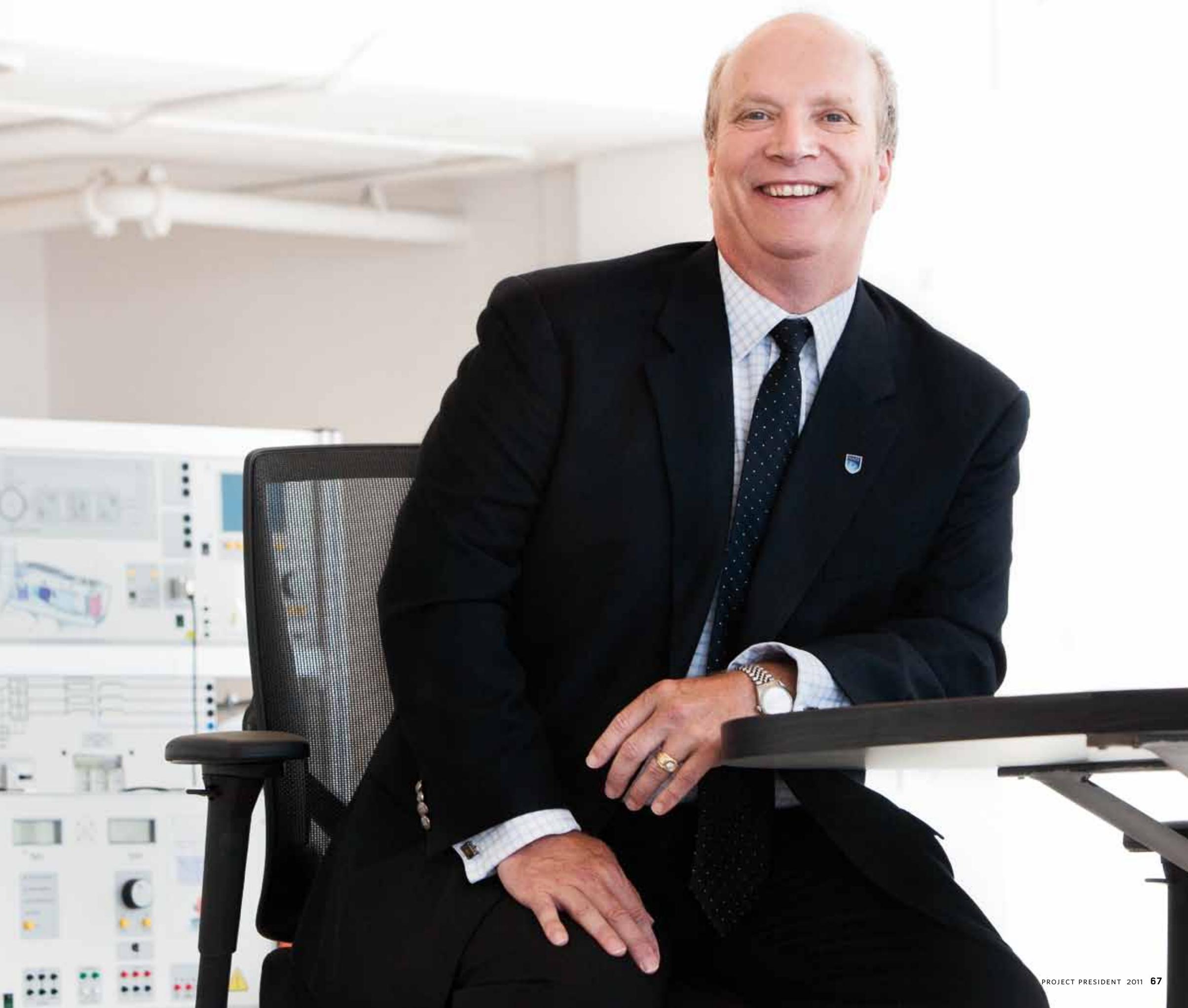
“These young individuals will be bringing best practices to their workplaces when they graduate. NAIT is an accelerator of best practice. We are bringing Alberta forward and we’re creating wealth and future prosperity.

“In each activity, I came away not only with a far greater appreciation for what our students go through and an understanding of how strong our programs are, but also a broader sense of where that activity fits within our institute and our society. I look forward to telling Alberta and the world about the great things we do at NAIT.”

In the end, our new president learned about us, and we learned about him. We also got to know ourselves a lot better. We rediscovered all that NAIT is, the contributions we make to it as faculty and staff, and what makes us one of Canada’s leading polytechnics.

Overall, through Project President, we gained a better understanding of the strengths, goals, and maybe most importantly, the people that will lead us into the future.

Welcome to NAIT, Dr. Feltham.



Acknowledgments

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