



Fleming College

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RESOURCES DRILLING AND BLASTING



Nik Nemirovski
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FLEMING COLLEGE QUICK FACTS

- **Location:**
 - Central Ontario
 - 130 km northeast of Toronto
 - 270 km from Ottawa
 - Peterborough, Lindsay
Cobourg, Haliburton
- **Program Types:**
 - Diplomas, Joint Diploma/Degrees,
Advanced Diplomas, Certificates,
Ontario College Graduate Certificates
Apprenticeships
 - Full-time programs: 90+
 - Full-time students: 5,500+



SCHOOL OF ENVIRONMENTAL & NATURAL RESOURCE SCIENCES



Fleming College

OFFERS:

- **Resources Drilling & Blasting Program (RDB)**
- **Blasting Techniques Program**



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DRILLING PROGRAM HIGHLIGHTS

- First Graduate Class in 1979
- Since 1979, Fleming College has produced over 1200 drilling & blasting graduates.
- Program Length: 4 semesters
- Starts: September & January
- Credential: Ontario College Diploma
- An industry advisory committee
- NAFTA Agreement



RESOURCES DRILLING PROGRAM HIGHLIGHTS



Fleming College

- Students work on a full range of drilling equipment in our five service bays
- Specially equipped classrooms/labs in the facility
- Classroom sessions are complemented by hands-on drilling labs, including work in local quarries
- 2:1 lab/ class ratio
- Lab sizes are restricted to no more than 20 students
- Faculty who know you by name
All teachers have graduated from the program and come from the industry
- \$1 Million donations to the Drilling and Blasting program from entrepreneur, businessman and college alumnus, Duane Parnham.



THE PROGRAM'S MISSION



Fleming College

- To be the first choice among employers by offering the most qualified, hard working students in the drilling services industry today



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WHY OUR GRADUATES ARE SO SUCCESSFUL?

- The RDB at Fleming is the only one of its kind in the world!
- Students spend two years studying to be in this industry
- Instructors place great emphasis on:
 - Safety awareness and compliance
 - Document and record keeping
 - Communication and team work skills
 - Maintenance and protection of equipment



RDB CURRICULUM: COMMON FIRST SEMESTER

- Environmental Leadership
- Applied Mathematics in Natural Resource Science
- Ecology And Environment
- Ecosystem Skills
- Geospatial Techniques
- Communication Skills



RDB CURRICULUM: SEMESTER 2

GEOTECHNICAL DRILLING

- Introduction to the soil testing and site investigation industry



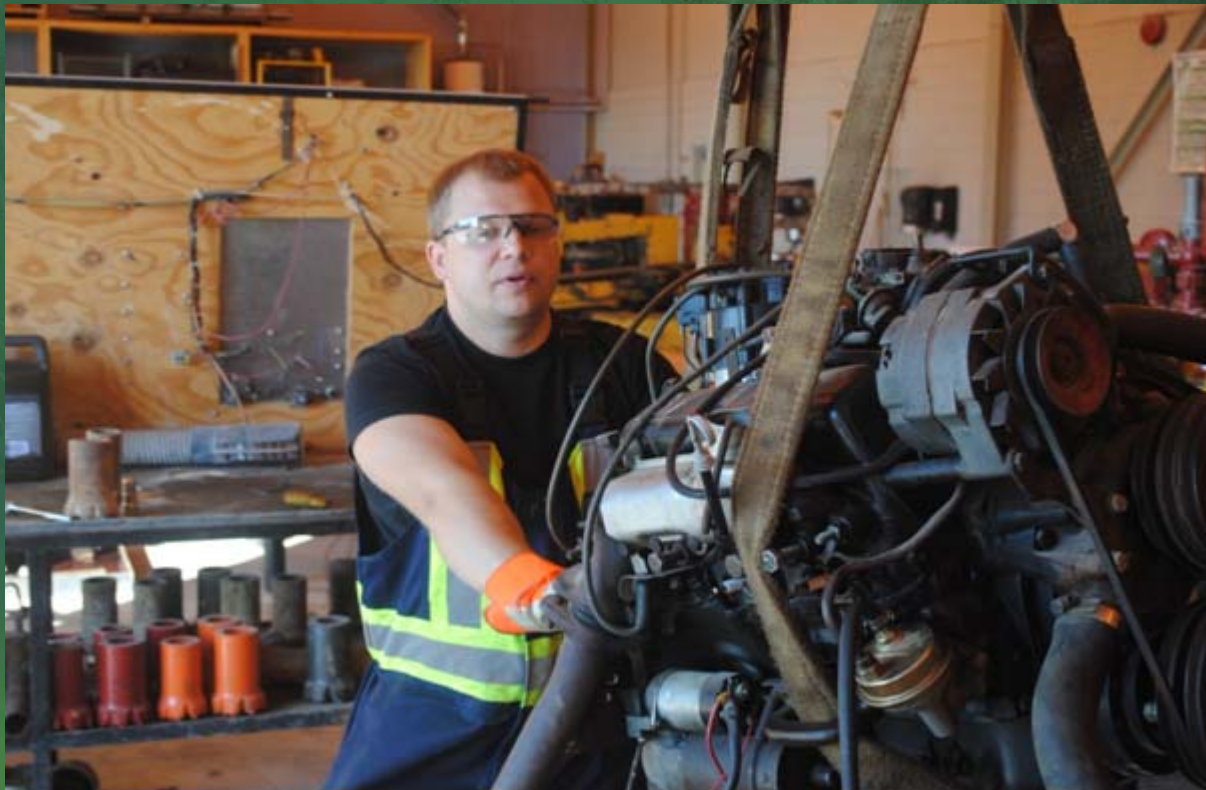
RDB CURRICULUM: SEMESTER 2

RIG MAINTENANCE AND REPAIR



Fleming College

- Students learn the operating characteristics, maintenance schedules, and repair of the many types of gasoline and diesel engines, pumps and air compressors



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RDB CURRICULUM: SEMESTER 2

SOIL STUDIES



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- Introduction to the physical and chemical properties of soils
- Identification and classification of soil



RDB CURRICULUM: SEMESTER 2

WATERWELL DRILLING



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- This course is designed to teach water well drilling methods, applications, and techniques
- Well design, development, hole advancement, and casing installation technology
- Adhere to federal, state and local regulations and industry safety policies.



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RDB CURRICULUM: SEMESTER 2

NOT JUST DRILLING

- **ASIDE FROM THE DRILLING RELATED COURSES, STUDENTS ARE REQUIRED TO BROADEN THEIR EDUCATION:**

- **DATA MANAGEMENT**
- **TECHNICAL REPORTING**
- **GENERAL EDUCATION ELECTIVE**



RDB CURRICULUM: SEMESTER 3

DRILLING PUMP SYSTEMS



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- Introduction to centrifugal and displacement pump theories
- Safe work habits, effective communication, and the proper use of hand and power tools



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RDB CURRICULUM: SEMESTER 3

ENVIRONMENTAL DRILLING



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- This course provides the technical skills required to work in the environmental drilling industry



RDB CURRICULUM: SEMESTER 3

HORIZONTAL DIRECTIONAL DRILLING



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- Boring and back-reaming techniques
- Safety, planning, tracking electronics, and drill fluids



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RDB CURRICULUM: SEMESTER 3

HYDRAULICS

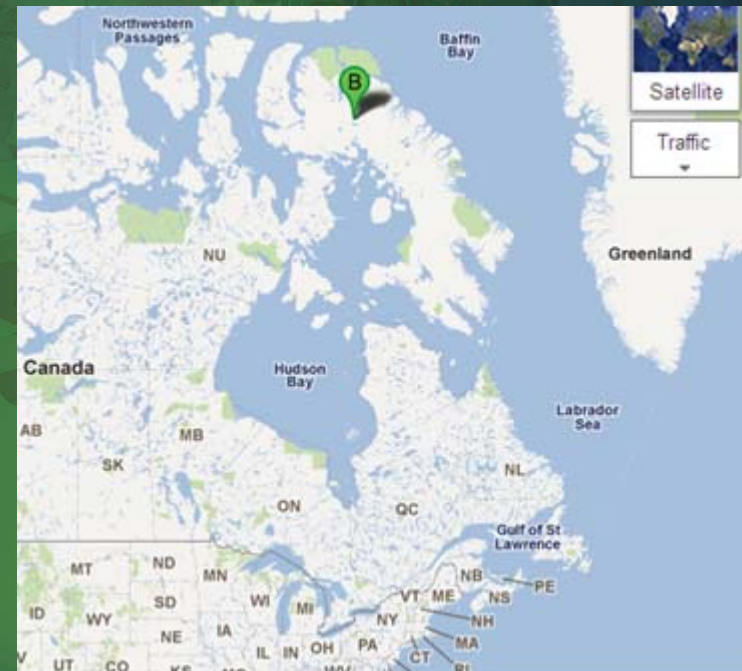
- Basic understanding of drilling hydraulic systems
- Preventative maintenance and troubleshooting procedures



RDB CURRICULUM: SEMESTER 3

FIELD OPERATIONS

- Opportunity to apply existing knowledge and gain new insights in the drilling industry
- Boart Longyear - Baffin Island Project



RDB CURRICULUM: SEMESTER 3

ROTARY DRILLING SYSTEMS



Fleming College

- Covers applications and the operation of rotary air and fluid drilling systems in overburden and rock conditions
- All theory and applications are reinforced in actual hands-on drilling labs, with a strong emphasis on safety and efficient drilling practices



RDB CURRICULUM: SEMESTER 3

HUMAN RELATIONS



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- Getting along with co-workers is a big part of doing the job well!
- Conflict management in employment situations



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RDB CURRICULUM: SEMESTER 4

BLASTHOLE DRILLING

- Working principles of rock drills, air compressors and operating theories



RDB CURRICULUM: SEMESTER 4 ADVANCED HYDRAULICS AND RIG MAINTENANCE



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- Hands-on applications of maintenance, troubleshooting and repair of industry-related engines, hydraulic, electrical and drive systems



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RDB CURRICULUM: SEMESTER 4

BLASTING

- This course stresses the safety, hazards, security and use of commercial explosive products



RDB CURRICULUM: SEMESTER 4

DIAMOND CORE DRILLING



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- Techniques to maximize footage, core recovery, and bit performance will be presented in both theoretical and practical learning situations



RDB CURRICULUM: SEMESTER 4

ROCK STUDIES



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- Engineering properties of rock are taught, along with their association with blasting and drilling



RDB CURRICULUM: SEMESTER 4

QUARRY CAMP



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- This hands-on course will provide the student with an opportunity to operate various blast hole drilling equipment in an off-campus active quarry





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RDB CURRICULUM: SEMESTER 4

ENVIRONMENTAL ISSUES: THE HUMAN FACTOR

- Inspired to find perspective
- Non-technical aspects of environmental issues: historical, cultural, ethical, political, and economic



Blasting Techniques Program

- Program Length: 2 semesters
- Starts: September
- Credential: Ontario College Certificate
- The only two-semester program in Canada that allows hand-on training and covers an extensive theoretical part
- ISEE training modules are used
- Teachers come from the industry with years of experience
- Industry advised program





Blasting Curriculum: Semester 1

- Environmental Leadership
- Blasting Application Field Camp I
- Blasting Fundamentals
- Common core: Surface miner
- Communication for Blasting Techniques I
- Math and Trade Calculations for Blasting
- Product Knowledge for Blasting
- Safety and Legislation for Blasting





Blasting Curriculum: Semester 2

- Blasthole Drilling
- Blasting Application Field Camp II
- Communication for Blasting Techniques II
- Construction Blasting and Quarrying
- Environmental Impact of Blasting
- Fundamentals of Blasting II:
Blast Design and Layout
- Governance and Safe Practices
- Rock Studies for Blasting





WHAT'S IN IT FOR YOU?

- Dedicated and motivated employees that chose to be in this industry
- Specific and unique training related to the industry
- Graduates with high awareness for safety and compliance
- Better staff retention, saving the company \$





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QUESTIONS?

www.flemingcollege.com

- For information about Fleming's RDB & Blasting Techniques, email gbailey@flemingc.on.ca
- To inquire about hiring a Fleming College graduate, please email mwalden@flemingc.on.ca