# PROFESSIONAL DEVELOPMENT
# FOR THE
# INFORMATION TECHNOLOGY SECTOR

Prepared for the
Northern Labour Market Information Clearinghouse

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# Professional Development for the Information Technology Sector

The Clearinghouse Project is a consortium of northern Alberta colleges and the Northern Alberta Development Council. The focus of the project is to conduct research concerning labour market issues in the north.

The college participants in the Clearinghouse Project identified the investigation of demand in the north for professional development courses in the information technology sector as a priority. The premise driving the investigation is an apparent lack of information technology courses in northern communities forcing professionals to travel to major centres for instruction. The courses themselves are expensive and the added cost of travel and living expenses put considerable burden on an organization's professional development budget. As well, the organization is without the individual's services for a week.

## Approach

The information technology sector, for the purposes of this study, was defined to include a range of proprietary office administrators' upgrading through to information technology engineers.

A number of information sources were utilized in the preparation of this report. An Internet search was conducted to determine technology training courses available in Alberta. In order to establish a baseline of training 'best practice' in the industry, the Call Centre Manager of Intuit, Canada a software development firm, was interviewed.

Northern employers were interviewed by telephone. A description of the project discussion points was prepared and made available to them. An attempt was made to balance the numbers of public and private sector employers. (The project description is located in Appendix B and the list of contacts is found in Appendix A).

A consultant who is an accredited Microsoft trainer was contacted in order to gain information concerning certification and training options.

Alberta Infrastructure provided details about the development of the Supernet project, which will provide services to northern communities.

## The Supernet Project

The project will provide high speed, wireless service to 420 Alberta communities.  It is in the final planning stages, with completion date scheduled for 2004.  The project is designed for the use of learning and health organizations.

The Supernet project itself was described as the provision of the infrastructure or highway.  Organizations and communities will create the "on-ramps" that would access it in the way that is most useful for them.  The analogy is that of the province building the highway and the community building the access roads between the highway and the community.

Very small communities may not have access to the service, while those that will can begin anticipating the benefits of having a wide-band cable modem capability.  The spokesman for Alberta Infrastructure encouraged communities and organizations to begin planning for future use now, in order to take timely advantage of the service.

## Alberta North

Alberta North currently supports 50 technology-rich points in the north.  A number of respondents indicated that they were currently making use of the Alberta North program's Community Access Points (CAPs).  Not only do the CAPS provide access to internet service; they can be used for videoconferencing.  Again, a number of respondents felt that there was good potential for videoconferencing via the CAP sites to supplement on-line instruction.

## An Industry Training Standard

The Call Centre Manager at Intuit, Canada was contacted to obtain the scope of training offered to his staff.  Because Intuit is a large international urban IT firm, it employs a range of certified professionals who can offer training to new staff.  Thus, it could be considered a prime example of exemplary staff development practice.  The manager reported offering regular training in the following:

- ❖ General computer usage programs such as word-processing
- ❖ HTML programs such as Netscape and Explorer
- ❖ Courses involving implementing and administering web servers
- ❖ Microsoft programs including Outlook, Access, Project and PowerPoint
- ❖ Networking system software and hardware
- ❖ Microsoft and Adobe
- ❖ CGI Scripting (computer graphic interface)
- ❖ Courses leading to the Microsoft Certified Systems Engineer – MCSE – designation (for support engineers)
- ❖ Novell and Microsoft (operating systems)

## Microsoft Training

A Microsoft certified instructor who is also a consultant in the industry provided information concerning instruction and certification.  He advised that there are several routes to providing Microsoft training leading to certification.

The first is to have accredited Microsoft instructors provide the courses using Microsoft learning materials.  The second is to develop curriculum with learning outcomes that are equivalent to the Microsoft authorized courses.

In order for a training institute to become an authorized Microsoft training centre, several conditions must be met. It must be able to deliver a required number of courses and have at least two full time Microsoft trainers on site. The trainers must hold the MCSE designation.

It is possible to offer courses whose outcomes will meet Microsoft standards. The consultant indicated that he had been part of alliances involving a public institution, private sector companies and his instructional firm. This option would meet the requirements of the second approach described above.

Either approach is feasible because the examinations for the Microsoft certification are administered by a separate company; Sylvan Prometrics. They are contracted with Microsoft to handle exam development, delivery and marking. The only requirement for the student is to ensure the acquisition of the prescribed learning outcomes.

Microsoft does have self study programs available for those who wish to study independently. However, the self-study programs have a limitation in that they do not include practice exercises. The instructor interviewed indicated that he develops his own study supplements to augment his teaching.

## Employer Interviews

Major employers, both public and private sector, were contacted. The discussions consistently fell into two major concerns: upgrading for office administration staff and upgrading and certification for information technology professionals.

## Administrative Staff Training

There was general agreement that the need for training and upgrading for office administration staff is largely being met.  This training includes instruction for new users of software and software upgrades in basic word processing, spreadsheets, PowerPoint, as well as PageMaker-type software.

A small need for e-mail and internet training was mentioned, primarily in the more remote communities.  One major private sector employer reported his firm's preference that any training for administrative support staff should lead to certification such as Microsoft User Certification.

Employers in communities regularly served by northern colleges indicated that their office administrative staff was well served for their software upgrading needs.  The more remote communities, not surprisingly, reported the need for more consistent access to upgrading programs and training in new versions of software.

The Wood Buffalo Region reports indicated that Keyano College is meeting the local training needs of administrative support workers.  However, a large turnover in information technology professionals was reported for the region.

## Information Technology Staff Upgrading

The basic premise that motivated this study, that the costs and distance to IT professional development courses are borne by northern employers, was confirmed.  These costs have considerable impact on professional development budgets and cause IT professionals to be away for up to a week at a time.

The courses used by employers who responded included all of the same courses Intuit provides for its staff.  Prices per course ranged from $2,000 to $8,000 for instruction alone.  Reported participation for individual staff

members showed a frequency of two to four courses per year, each with an average five-day length.  Some of the IT managers do not include the cost of travel and subsistence in their budgets, so respondents were hard pressed to estimate the cost of this portion of staff upgrading.

All respondents indicated that they want their staff to take courses that lead to certification.  The most often cited certification was the Microsoft Certified System Engineer designation, although several mentioned the MCP designation, which is an interim certificate on the way to an MCSE.  A range of web design and maintenance programs, data base maintenance and technical support, were also mentioned as desirable additional courses.

Criteria for choosing training were primarily timing and quality of instruction.  The preference for instructor qualifications is an individual who has combined hands-on, ongoing experience in the industry, knowledge of product application and proven instructional skills.

Three employers indicated that they had their own training facility, notably the City of Grande Prairie, Syncrude Canada and the Ft. Vermilion School District.  All spokespeople expressed the benefits of forming alliances with local employers to cost share the instruction in their existing training locations.

## Course Participation
## Additional to Information Technology Training

Project management was the most frequently reported additional training undertaken by IT workers.  These courses are not consistently available locally.  As well, there was some indication that supervision, communication skills, human relation skills and voice communication training courses were accessed.

One respondent employer indicated that he had sent his staff to training in e-mail etiquette and cell phone use.

## Response to Locally Offered Training

Not surprisingly, the response to possible local instruction was positive and unanimous. However, all of those questioned placed firm conditions on what constituted acceptable training:

- ❖ Priority is given to quality of instruction over consideration of cost.
- ❖ Courses should be available at the time that they are needed.
- ❖ Employer sponsored training in IT must lead to accepted certification.

## Additional Suggestions

There was conflicting response to the discussion around the relative merits of classroom instruction and of on-line instruction. Several individuals indicated that they learned best in a face-to-face, interactive classroom setting. On the other hand, there was support for the advantages of instruction being available on-line and/or through videoconferencing. The advantages named were scheduling flexibility and the availability of the instruction during the employee's off-hours and, at his/her own pace.

Respondents were unaware of the number of individuals working in the IT field in the north. Consequently, they expressed concerns about the existence of a sufficient critical mass of IT professionals to support the ongoing development and delivery of training programs.

## Conclusions

The respondents who were willing to discuss training issues for staff indicated that their concerns regarding administrative support staff training differed from the concerns around information technology professionals' training.  Generally they felt well served by northern colleges who provide staff development for support staff.  Courses in new software and proprietary programs such as Microsoft were given as examples.  They did say that they would welcome this kind of instruction offered on-line.

During a conversation with the Fairview College Dean of Business, she indicated that the College is planning on-line instruction in office administration subjects in the future.

Those interviewed confirmed the lack of relevant training locally for information technology workers.  Courses are often one week in length and tuition costs are in the thousands of dollars.  The closest courses leading to the most popular designation are offered in Edmonton and Calgary.  This means that individuals working towards certification are away from their work potentially four weeks per year.  This results in the employer being without staff services for this time, and also bearing the cost of subsistence and travel.

There is definite support for northern local delivery of information technology courses, on the condition that these courses lead to accepted certification.  There is also support for courses available on-line.  The benefit, of course, is accessibility for participants who could well complete all or part of the training in their own time.  One person feared that on-line delivery could cause the participating colleges to lose their competitive edge through having the course publicly available.

Several respondents expressed concern about a potential lack of sufficient critical mass to maintain delivery.  While this may be a legitimate concern, each of the major employers interviewed reported that they had an IT staff numbering between 2 and 7 individuals.  Consequently, if one considers all

of the hospital regions, school boards, civic governments and private sector employers in the north, it would appear that the critical number of potential participants exists.

This is particularly true if the instruction can be delivered electronically. Jointly sponsored courses in existing local training facilities is also an idea that has merit and was strongly endorsed by a number of respondents. If agreement could be reached with major employers in a community, the program would also, no doubt, attract professionals from smaller firms who lack the staff development budget to send employees away for training.

The most sought after certification in the field is the Microsoft MCSE designation. The two routes to achieving certification, Microsoft curriculum and outcomes-based instruction, were outlined above.

The requirements to become a Microsoft accredited training centre involve having a prescribed number of certified instructors. This requirement and strict guidelines about how the content is presented make this route somewhat limiting. The more practical choice appears to lie in providing Microsoft equivalent instruction. Using this approach, students are eligible for certification upon passing the authorized Prometrics exam.

There is no doubt that the preparation of instructional programs in this field is costly. However, the industry has come to accept relatively high tuition costs. The researcher had reports of tuition per course ranging from $2,000 to $10,000. Thus, cost recovery for course development could be realized within an acceptable period of time.

Those who deliver IT instructional programs indicated that the nature of the industry causes potential frustrations. Frequent changes and upgrades to software occur. It is common for a company such as Microsoft to cause developers and instructors to re-certify after changes have been made. It requires constant monitoring to ensure that instructors are current with the latest industry changes. Additionally, a highly competitive market for course developers and instructors exists in this industry. Turnover is very high as the market for instructors is worldwide.

Should the college partners in the Clearinghouse Project choose to proceed with development and delivery of programs in the information technology sector, they will need to engage in serious discussion about the economics involved. High development costs raise issues concerning how the colleges will approach the provision of such a service for northern residents. Do the colleges use a collaborative approach to development and then delivery? Does one college take the lead? Does one college assume the entire responsibility?

There appears to be the will to support local college initiatives as long as the quality of instruction equals the quality of Calgary and Edmonton programs. There is also enthusiasm about the advantages of accessing such programs locally. Existing infrastructure, such as videoconferencing capabilities and the CAP sites, would support such a venture. A last positive indicator is the willingness of major employers to co-sponsor training programs in existing training facilities.

# CONTACTS

| Name | Organization | Telephone |
|------|-------------|-----------|
| Rob Boscha | Alberta Pacific | (789) 525 - 8139 |
| Barb Boyko | Town of Slave Lake | (780) 849 - 8000 |
| Michael Cook | Discipline Head Information Technology Syncrude Canada | (780) 790 - 7944 |
| Brad Eamond | City of Grande Prairie | (780) 538 - 0427 |
| Dan Goodier | Microsoft Trainer | (780) 427 - 8541 |
| Darlene Hardy | Town of High Level | (780) 926 - 2201 |
| Dave Hauschildt | Ft. Vermilion School District | (780) 927 - 3766 |
| Bob McIntyre | Manager, Call Centre Intuit, Canada | (780) 450 - 5853 |
| Dave Niblock | Alberta Infrastructure | (780) 450 - 5853 |
| Kjersti Powell | Human Resources Syncrude Canada | (780) 790 - 3607 |
| Jeff Protz | Peace River School District | (780) 624 - 3515 |
| Judith Vanduran | Alberta North | (780) 675 - 6184 |
| Charles Vanduran | Athabasca University | (780) 675 - 6111 |
| Duncan Wolmsley | Northwestern Health Services Region | (780) 926 - 4388 |

# Professional Development for the
# Information Technology Sector

This project is being prepared for the Northern Alberta Development Council, Clearinghouse Project. The Project was created in 1995 to provide research reports to a consortium of northern Alberta colleges and NADC regarding local labour market issues.

The college partners are Fairview College, Grande Prairie Regional College, Keyano College, Lakeland College and Northern Lakes College.

The Clearinghouse Project is exploring the need of northern employers for training programs for existing employees who work in the information technology sector. Several employers have indicated that the necessary upgrading and professional development programs are not available locally. Because the latest technologies are vital to workers in this knowledge sector, companies have been sponsoring training opportunities in programs that are held in major southern centres. This is costly in terms of travel, time away from the job and subsistence expenses.

In order that the college partners can determine the need for northern offerings in this sector the following questions will assist in their decision making.

What groups in your company do you consider as requiring information technology training? E.g. network specialists, tech support, data base maintenance, administrative assistants, web design and maintenance.

Does your company send any of these groups to courses that will upgrade their skills in management, supervision, project management, presentation skills, etc?

Would your company send employees to locally offered courses that filled the above requirements?

Thank you for your help with this.

Please respond to:
Beverly MacKeen
Beverly A MacKeen Ph. D. & Associates
Telephone: (780) 454 - 8686
Fax: (780) 454 - 7204
E-mail: bmackeen@planet.eon.net