

Qatar anxiously awaits GIS graduates

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Countdown to graduation, 5, 4, 3, 2, 1!

In a few short months, In Sha'Allah, Qatar will receive the first graduates from its GIS Technologist Diploma Program. Three ladies, who started the Program with the inaugural group of ladies in September 1996, are currently working on their final projects and should graduate this June.

"We can hardly wait for these graduates to join the Center for GIS!" says Qassim Al-Ghanim, Head of the Center for GIS. "As everybody knows, we have an excellent GIS team here in Qatar; however, 95% of the work force is expatriate. It is time to get more of our citizens involved in the day-to-day work of building our country's GIS databases and applications."

Hamda Al-Kuwari, one of the upcoming graduates says, "I'm really looking forward to working in GIS. I was worried at first, but after our on-site training last summer, I am more confident and think that GIS is a good job for ladies in Qatar."

These first GIS graduates are the fruit of an enlightened partnership that began almost four years ago between the Center for GIS, Ministry of Municipal Affairs and Agriculture and the Faculty of Technology, University of Qatar.

In this partnership, the Ministry of Municipal Affairs and Agriculture helped to establish the GIS Program by supplying:

the computer hardware required for a GIS lab in both the men's and ladies' campuses

the GIS software for the first year of operation, and a GIS professor during the startup years.

For its part, the University of Qatar agreed to: provide the physical, non-computer, facilities required to operate the program, work with Qtel to provide the fiber optic link from the University to Qatar's GISNet,

maintain the GIS software licenses after the first year, and

hire sufficient faculty and staff to operate the GIS Program over the long term.

"We are proud to be part of this education partnership" notes Dr. Mohammed Al-Hammadi, Dean of the Faculty of Technology, University of Qatar. "The GIS Program has meshed nicely with our Computer Information Technology Program and has helped us to modernize our Survey Technologist Program.

Dr. Mohamed Salah Gouider, Chairman, Computer Technology Department, adds, " The two new GIS labs are certainly a significant addition to our computer-related teaching facilities. Because of the GIS Program, we have been able introduce GIS as an exciting

computer application to all 100 of our first year Computer Information Technologist students.

The GIS program began with one group of ladies in September, 1996. In September, 1997 the Program was opened to both men and ladies. Currently there are 58 students (table 1) enrolled in the Program and about 20 graduates are expected per year once the Program is running at full capacity (table 2). Since there are over 150 people (almost all expatriates) working on GIS in Qatar and since the country has been hiring an additional 10 to 20 GIS people per year, there will be ample employment opportunities for Qatari nationals with solid GIS knowledge and skills.

Year of Program	Men	Ladies	Total
1st	8	18	26
2nd	7	22	29
3rd	-	3	3
Total	15	43	58

Table Number of students by gender and year enrolled in the GIS Program (as of March 1999)

The objective of the GIS Program is to: "provide skilled GIS technologists who can build, use and maintain GIS applications and GIS databases."

The two and a half year curriculum designed to meet this objective is shown in table 3. The curriculum purposefully emphasizes computer programming and database skills and provides a great deal of practical, hands-on laboratory work.

"I didn't know there was so much to learn about GIS", says Ibrahim Yousef Al-Janahi, a second year student. "The mathematics and programming courses were challenging. I can see why they are so necessary for a person to learn how to develop GIS applications."

"The fiber optic link to the Center for



Students Amer Mohammed Al-Khumi and Ibrahim Yousef Al-Janahi

Year	Men	Ladies	Total
1999	0	3	3
2000	4	4	8
2001	6	10	16
2002	8	12	20
...	8	12	20
Total	15	43	58

Table 2. Expected number of graduates per year



Students Abdulla/Mohammed AlGhanim (right) and Mohammed Ismail AlMaliki (left)

Semester 1	Semester 2	Semester 3	Semester 4	Semester 5
Introduction to GIS*	Spatial Data Input	Spatial Data Input/Output	GIS Programming (1)	GIS Programming (2)
Packages*	Spatial Data Output	Georeferencing	GIS in Qatar	Introduction to Remote Sensing
Mathematics*	Mathematics and Statistics*	GIS Analysis (1)	GIS Analysis (2)	Islamic Culture*
Computer Fundamentals*	Database (1)*	Database (2)*	Database Design*	Field Training (5 weeks)
Programming Principles*	Programming*	Programming & Data Structures*	Introduction to Object-oriented Programming*	Final Project
Basic English*	Technical English (1)*	Technical English (2)*	Arabic*	

Table 3. Curriculum of the GIS Technologist Program, Computer Technology Department, Faculty of Technology, University of Qatar
*Courses common between the GIS and the Computer Information Technology Programs

GIS and other government agencies using GIS is fantastic" exclaims Abdulla Al-Ghanim, another second year student. "I particularly like using the digital orthophotos. The GIS Program is very practical. It is nice to know that we are learning on the same hardware and software, and using the same data, as we will find in the workplace."

To date, enrolment in all programs in the Faculty of Technology is limited to Qatari citizens; however, due to the critical shortage of skilled GIS Technologists throughout the Gulf States, the University of Qatar is considering opening up this Program to non-Qatari's. Anybody interested in this possibility should contact Dr. Mohammed Al-Hammadi, Dean, Faculty of Technology, University of Qatar (FAX 0974-880337).

Like many worthwhile endeavors, developing a GIS education program requires time and a significant investment before the fruits can be harvested. As harvest time approaches in Qatar, several employers are anxious to hire Qatari citizens with solid GIS and related computer skills. However, as Qassim Al-Ghanim, Head of CGIS notes, "Those who planted the seeds and nurtured their growth should get the first fruits of the harvest - there will be plenty for all very soon."

If you would like more information about the GIS Program please contact:

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