

Internet, HTML, JavaScript, Java Programming,
Advanced Java and Global E-Commerce Projects

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Abstract

The teaching and research of Internet, Web Design, Java Programming, and E-Commerce Projects revitalized the curriculum development for many Universities and Colleges in the world. Since 1995, new courses were developed at Dominican College, attracting 314 students of all majors. In addition, training was provided to 254 people at seven companies in New York and New Jersey. This paper presents a summary of the teaching/training efforts.

Internet, Web Design, Java and Project courses attracted much interest in recent years. Audick et al (2001) built JDBAssist JavaBeans, Bruce et al (2001) defined the teaching of Java in CS1, Chenoweth (2001) developed a new curriculum including web courses, Cogswell (2001) listed visual/interactive Java applets, Georgiev and Georgiev (2001) identified a security model for distributed computing, Hatfield et al (2001) implemented a logic tool in Java, Hufford (2001) constructed a web network and website management course, Hsu (2001) presented Internet job search, Hsu (2001) reviewed advanced webmaster development tools, Hsu (2000) did work on advanced Java Programming tools, Hsu and Wirth (1997) reported Japanese management styles, Johnson (2001) demonstrated a tutorial on web programming, Kumar et al (2001) did a panel discussion on Internet curriculum, Royster (2001) explored E-business programming (2001), Sanders and Heeler (2001) explained the Java support tools and Stiller and LeBlanc (2001) taught Java in Client/Server environment.

Dominican College

In Fall Semester of 1988, Dominican College student population was about 1400 when this author joined the Division of Business Administration. Business Division offers two Bachelor of Science programs in Information Technology, one in Computer Information Systems (CIS) and the other in Management Information Systems (MIS). CIS majors have to take two semesters of Calculus. There is a small difference of the course requirements between CIS and MIS. As of Fall Semester of 2002, the College

student population is about 1800 with 10 CIS majors and 75 MIS majors. The College is located 14 miles northwest of the New York City. The largest major is Business (23%). Other academic programs include Arts and Science, Education, Nursing, Occupation Therapy, Physical Therapy, and Social Science. Master degrees are offered in Education, Nursing, and Occupation Therapy.

(1) Internet course

To satisfy the need of the industry, an Internet course was offered in Fall Semester of 1995, in the Continuing Education Division on the weekend. In the beginning, the Internet access was very slow and only one machine was used. The AOL connection was demonstrated and various ethical issues were covered. This course gives no credit. In 1996 and later years, the course became very popular. After significant redesign, it is designated as CI 17 for one credit. It was taught in day, evening and on weekend. The course is “50% hands-on”. The course is scheduled for a total of 12.5 hours. For the day student, this is a five-week class, which meets twice per week. For the weekend students, they will meet on one Saturday and Sunday for 6 hours and 20 minutes each. During each class, a specific topic is given. Students search the appropriate website, gain in-depth knowledge and perform “hands-on” group or individual exercises. Table 1 lists the semester, catalog number, course title and enrollments. Students taking this course come from all majors including English, History, Nursing and Social Science.

(2) Website Design HTML course

Students enjoy the CI 17 Internet course very much. Many asked for the next course. CI 19 Web Page Design (HTML) course was developed and offered in Spring Semester 1999, see Table 1. This course is a “100% hands-on” course. In the first class, the files for the students to do exercises were downloaded. Notepad was used as an editor. Students were let loose to follow the textbook published by Course Technology (2001). It has the same 12.5 hours and one-credit design as CI 17. Using HTML and the textbook, students design all types of website with ease and some become very creative. Students help each other. Instructor was able to assist them with difficult problems. Any one can take this course without any pre-requisite. Younger students (18-25) enjoy this type of approach. Adult population who have difficulty typing do not enjoy as much. There is a minimum requirement, say five chapters out of seven total chapters. The slower students will not be penalized as long as they finish these five chapters. It becomes a popular course that is offered every year. At the end of the semester, there is a final exam. It tests definitions and “hands-on” problem solving.

(3) JavaScript course

Many students who completed the CI 19 course requested another web design course. In the Fall Semester 2001, CI 19B JavaScript was offered for the first time. It uses the same format as CI 19 Web Page Design, except using JavaScript in conjunction with HTML. Students again, enjoy the “100% hands-on” experience. Dominican College has the approval with the State of New York to offer a Certificate in Personal Computing to

anyone with completion of six one-credit courses. Several students are taking these courses in addition to MS Word, Excel and PowerPoint to get their certificates.

(4) Java Programming course

A Sabbatical Leave grant in Spring Semester of 1998 was awarded. The intent was to get training in Java Programming so Java courses can be offered at Dominican. The Career Center Java course was held on four Sundays, with 8 hours per day. The Java course at Baruch College was conducted on ten Wednesday evenings. Taking these two courses and doing homework assignments took much of the time for the Spring Semester of 1998. Since 1986, C and C++ programming were taught in different firms. Learning Java is not very difficult. CI 68 Java Programming was offered at Dominican in Spring Semester of 1999. This is an elective course in the curriculum but it quickly becomes a popular offering that many CIS and MIS majors take (Table 1). It was also offered many times at different corporations as discussed below.

Computer Impact

(5) Advanced Java Programming course

In December 1999, Java Programming was offered at Computer Impact in New Jersey. After the course was over, there was a need to develop an Advanced Java course. Much time was spent on preparation and an Advanced Java Programming course was given in January 2000 (Table 2). It covers many topics: Corba, JDBC, Jini, EJB, Servlet, XML, just to name a few. Students made final presentations on these topics by using their PowerPoint slides. This course was later taught at Baruch College and Dominican College (Table 2). Several students got jobs as Java Programmers.

Xincon Technology

(6) CIW Application Developer course

In the summer of 2000, a 60-hour course, CIW Application Developer was offered at Xincon Technology, New York city. Half of the time is devoted to Java Programming. The other 30 hours are spent on ASP, Cold Fusion, Perl, security issues and server-side scripting. This course was given twice (Table 2). Students then signed up for Java Programming course, 30 hours. At the end of the course, students obtain a Certificate of Completion from Xincon Technology. They can also get a Certificate of Completion with Prosofttraining.com by passing the multiple-choice exam.

(7) CIW Site Designer course

From January to November 2001, CIW Site Designer course was offered three times at Xincon. This 30-hour course is normally covered in five Saturdays, with 6 hours each day. Three books from Prosofttraining.com were used. Topics are: design concepts, web page layout, ASP, cookies, CSS, Cold Fusion, DHTML, databases, Dreamweaver, Flash,

Front Page, Java Applet, JavaScript, servers and XML. It is the same format as the CIW Application Developer course that students can get a Certificate of Completion with Prosofttraining.com if they pass the exam.

Baruch College

From January to July 2001, the Java Programming and Advanced Java were offered at Baruch College (Table 2). Each class was held on 10 Sundays, three hours each. In the Advanced Java Programming course, students were assigned group projects for their final presentations. Seven projects presented at the last class were: (1) Java database connectivity, (2) Investment applet on the server, (3) Java Server Page, (4) ASP vs JSP, (5) Airline applets, (6) Enterprise Java Beans, and (7) Graphical user interface applets. The majority of the students are adults who are working full-time, including a business manager, COBOL programmer, and a Medical Doctor. It was gratifying to see the final projects after spending six months with these students. They did excellent jobs.

Polytechnic Institute of New York

(8) Project Management course

In Fall 1999, the Project Management course was offered at Polytechnic Institute of New York, Manhattan campus, in the Executive Master of Science program in Telecommunication and Information System. Eighteen of the 36 students worked at the Verizon Corporation. In the final presentation, six group projects were made including: (1) Acme Pharmaceutical Company, (2) Australian Motors Ltd, (3) Automatic Baggage System, (4) The Apollo Project, (5) Human Genome Project, and (6) Kansai Airport. In Spring 2002, the Project Management course was offered at Manhattan Institute of Management (see below) to 26 students from Paris, France. This course was also taught at Baruch College, in Fall 2001.

Manhattan Institute of Management

(9) Global E-Commerce Projects course

From April to July 2001, a course in “Global E-Commerce Projects” at Manhattan Institute of Management, New York City was given to 14 students from Paris, France. It was a combination of using lectures, Internet search, software labs and group projects. E-Commerce, IPO success and dot.com crash stories were explained in details. There were few dot.com companies in France. Therefore students displayed much interest in these topics. Three groups were formed to do in-class projects: (1) MS Project, (2) Business Plan, (3) Siebel database, (4) Global Finance, and (5) Merger & Acquisition. This course extends the Project Management course to a new level, global. At the beginning, there were problems with understanding English. When they speak slower and make more efforts, they are able to learn. One student had to return to Paris in a hurry. He did a Case study with a Paris bank while he was doing an internship. Distance education does have its merit. This course was also taught at Dominican College several times (Table 1).

Netcom Information Technology

From December 2001 to June 2002, a Java Programming class and several Resume Workshops were given at this firm. About 8-12 people showed up at the Resume Workshop to get help on their resume.

Institute of Electrical and Electronics Engineers

In Spring 2002, a Java Programming class was offered to 26 electrical and computer engineers at BAE Systems, Wayne, NJ. IEEE North Jersey Section sponsored this class.

Conclusion

Nine new courses were developed and taught at eight organizations to *568 people* in the last seven years. Students range from 18 to 65 years old. Many of them never took a web course or a programming course. By starting them on something simple, then gradually move to more advanced topics, they seem to follow and learn. Hands-on approach, in-class assignments, and group-project final presentation will have the best chance of success. Many of them got jobs after taking these courses. Student evaluations have been extremely positive.

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Table 1. Dominican College, NY, full-time

Semester	Catalog	Course Title	Students
Fall 1995	CI 17	Internet, Con't Ed	9
Sprg 1996	CI 17	Internet, Con't Ed	16
Fall 1996	CI 17	Internet	6
	CI 17	Internet, Con't Ed	4
Sprg 1997	CI 17	Internet	7
Fall 1997	CI 17	Internet	4
Fall 1998	CI 17	Internet	13
Sprg 1999	CI 17	Internet, Con't Ed	7
	CI 19	Web Page Design	9
	CI 68	Java Programming	9
Fall 1999	CI 17	Internet	9
	CI 19	Web Page Design	9
Sprg 2000	CI 19	Web Page Design	11
	CI 19	Web Page Design, Con't Ed	6
	CI 68	Java Programming	12
Fall 2000	CI 17	Internet	16
	MG 66	Global E-Commerce	11
Sprg 2001	CI 19	Web Page Design	18
	CI 68	Java Programming	11
Fall 2001	CI 17	Internet	18
	CI 19B	JavaScript	17
	CI 68	Java Programming, Accel	10

	CI 69	Advanced Java Programming	6
Sprg 2002	CI 19	Web Page Design	12
	CI 69	Advanced Java Prog, Accel	11
	MG 66	Global E-Commerce	21
Fall 2002	CI 17	Internet	18
	CI 68	Java Programming	14
	<i>Subtotal</i>	<u><i>Dominican students</i></u>	<u>314</u>

Table 2. Corporate Training, part-time

Starting	Ending	Course Title	Students
(A) Computer Impact, Parsippany, NJ			
12/01/1999	12/18/1999	Java Programming	10
01/29/2000	04/01/2000	Advanced Java Prog	10
(B) Xincon Technology, New York, NY			
07/22/2000	09/23/2000	CIW Application Devep	8
10/07/2000	12/09/2000	CIW Application Devep	14
01/13/2001	02/10/2001	CIW Site Designer	9
02/17/2001	03/17/2001	Java Programming	7
05/12/2001	07/11/2001	Java Programming	5
06/16/2001	07/14/2001	CIW Site Designer	5
09/29/2001	11/03/2001	CIW Site Designer	5
11/17/2001	12/15/2001	Java Programming	5

01/12/2002	03/17/2002	Advanced Java Prog	5
03/02/2002	03/31/2002	Java Programming	7
04/20/2002	06/01/2002	Java Programming	4
07/13/2002	08/10/2002	Java Programming	8
08/17/2002	10/19/2002	Advanced Java Prog	8

(C) Baruch College, New York, NY

01/14/2001	03/25/2001	Java Programming	12
04/01/2001	07/01/2001	Advanced Java Progrm	20
10/03/2001	11/28/2001	Project Management	6

(D) Polytechnic Institute of New York, New York, NY

09/10/1999	12/11/1999	Project Management	36
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(E) Manhattan Institute Management, New York, NY

04/16/2001	07/09/2001	Global E-Comm Project	14
03/18/2002	05/31/2002	Project Management	26

(F) Netcom Information Technology, New York, NY

01/13/2002	02/10/2002	Java Programming	4
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(G) Institute Elect Electron Engrs, Parsippany, NJ

02/13/2002	04/26/2002	Java Programming	26
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<i>Subtotal</i>	<u>Corporate employees</u>	<u>254</u>
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Total number ==== >> 568!