

# From Digital Resource to Online Course

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## Abstract

A web environment for chemistry students in Chem-100 (Allied health Chemistry) at Miramar College has been developed. This web environment contains: class syllabus, course schedule (dates of reading assignment, homework assignment, quizzes, sample exams, special project), survey of student interest, helpful study advise / aide, solution to homework set, supplement homework questions, sample exams, lecture notes and links to other chemistry resources. Tutorials were developed to reinforce some important topics that students had difficult time understanding in the course. The intent of the web environment / digital resource is: 1) to help students succeed in chemistry and 2) position Chem-100 as an offering for the California Virtual Campus. The California Virtual Campus (CVC) was created in 1999, by then Governor Wilson, to create a portal for California's Community College educator to offer their courses online. This paper will discuss how the chemistry digital resource for Chem-100 was developed; what steps to take to translate MS-Word, MS-PowerPoint, MS-Excel documents to web friendly files using Netscape Composer and Adobe Acrobat. The finish product is used as a template for the online course that will be taught this fall under the California Virtual Campus (Miramar College).

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# Outline

## I. Moving towards distance education

California Virtual Campus : SDCCD online, Miramar online  
Chemistry courses online  
Students profile

## II. Basic idea: Resource binder

Beginnings: Lecture Notes to "Word Processing" Notes.  
The Resource Binder: Notes, Sample exam & other resources.

## III. Digital media: Electronic environment

Netscape Composer: Web Master without HTML  
Page layout and the content  
Announcement, syllabus, schedule, lecture notes, sample exam...

## IV. Online course: Strategy

WebCT: Shell to house online course.  
Survey, equipment requirement, tech-etiquette.

## V. Tools to start digitizing your course material

## VI. Summary

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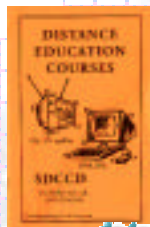
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# Moving towards distance-ed

## California Virtual Campus

10-UC, 23-CSU, 71-AICCU  
108 Community Colleges  
-Assist faculty offer course online.



## SDCCD Online

Miramar•Mesa•City  
-Full degree online



## Miramar College

-Miramar's offering

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## Chem Courses On-line

### Chem Offering from CVC

CSU, Stanislaus ([BioChem 4400](#)) ([ChemLife 3070](#))

SFCC ([ChemNonscientist 110](#))

Coastline ([GenChemA 180](#)) ([GenChemLabA 180L](#))

Coastline ([GenChemB 185](#)) ([GenChemLabB 185L](#))

Pierce ([GenChem1 101](#)) ([GenChem 101](#))

Santa Monica ([GenChem1 11](#))

Canyons ([GenChemI 201](#)) ([GenChemII 201](#))

Cuesta ([GenChem 1A](#)) ([GenChem 1A](#))

LaVerne ([IntroChem 103](#)) ([IntroChemLab 103L](#))

MiraCosta ([PrepChem 108](#))

SanMateo ([SrvyChem 100TV](#))

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## Student Profile

### Online success requires

- **Motivation and self-discipline**
- **Learn primarily from written and graphic documents.**
- **Willing to put in just as many hours as traditional course.**
- **Knowledge of computers, software and internet operation (e-mail and Web browser)**
- **The ability to learn WebCT.**

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# Student Technology Survey 1

Web usage	Everyday 55.80%	2-3 times a week 20.90%	1 wk. or less 20.90%	Not at all 2.30%		
Where access	Own 77.50%	School 22.50%				
Speed connection	Very fast 9.70%	Fast 73.10%	Slow 17%	Very slow 0%		
Activities used Web	Access class material and assignment 95.30%	Help with assignment 46.50%	Study for test(s) 90.60%	Research /Surf info 55.80%	Take quizzes 30.20%	Chat online about the course 11.60%
Spend time online	Music / Entertainment 9.30%	email communication 60.40%	Retrieve news and other information 16.20%	Homework and Research online 53.40%		
Frustrations	Speed of connection 48.80%	Low quality of information 18.60%	Read text from screen then print 16.20%	Accuracy of search engine difficulty of finding info 48.80%	Junk mail and Spam 67.40%	

Highest 2nd 3rd 4th Lowest

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# Student Technology Survey 2

Agree or Disagree	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
Use internet to do class research	23.80%	45.20%	19.00%	9.50%	2.30%
Study for exams	50.00%	35.70%	4.70%	4.70%	4.70%
Supplement to text	16.60%	30.90%	26.10%	9.50%	16.60%
Benefit to have online study guide	52.30%	38.00%	4.70%	2.30%	2.30%
Topics in web teach me more than text	21.40%	35.70%	38.00%	2.30%	2.30%
Read e-text rather than textbook	11.90%	16.60%	42.80%	14.20%	14.20%
I would be very interested in a Web service for exploring career options.	33.30%	42.80%	23.80%	0%	0%

	Traditional Course	Course with Online Resource	Online Course
CH-100	43.8 %	43.6 %	12.5 %
CH-200	29.4 %	58.8 %	11.8 %
CH-201	30.0 %	70.0 %	0 %

Highest 2nd 3rd 4th Lowest

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## The Basic Idea

- Present course content through a multitude of media to convey behavior at the atomic scale.
- Disseminate information that is both convenient in schedule and geography.
- Create module lesson plans that can be shuffle for other courses or rearranged if text is changed.
- Reduce paper usage and save on copy cost (for the department).

## Developing A Library

### Templates for:

#### Lecture Notes

Notes are design in a modular format which provides flexibility in the sequence of presentation.



#### Exam Questions

Questions are saved as footnotes in a MS Word document. In this format questions can easily be shuffled when making up an exam.



#### Handouts & Activities

A variety of handouts, concept summaries and group activities (marathon group learning problem set) are developed for students to comprehend topics in different formats.

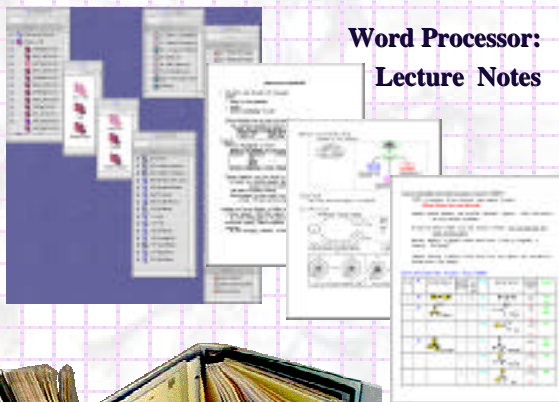


## The Process

Composition Notebooks



Word Processor:  
Lecture Notes



Resource Binder



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## Chemistry Resource Binder

### •Purpose

- Disseminate course content to Students  
i.e., Syllabi, Schedule, Handouts, Lecture  
Notes

### •Benefits

- Don't have to keep passing out handouts
- Reduce paper usage
- Readily accessible to students

**Resource Binder provides the template by  
which the digital resource is organized.**

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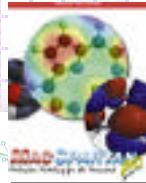
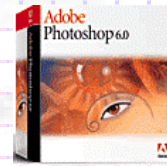
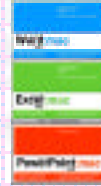


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# Digital Transformation

## Resource Binder



## Shareware

QuickTime  
ScreenMovie  
Default Folder  
iView Multimedia  
iMovie  
Flash-It



The variety of programs used to translate the content of the Resource binder to digital media

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# Netscape Composer

“Building a well-design site has become surprisingly simple ...Gone are the days when you had to have a command of HTML ... using (web-creation program) designers view the actual page as they create it, entering text and placing graphics in much the same way as they would with a **word processor**.”

- Smart Computing

Moreover,

**It's Free !!!**



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# Netscape Composer

## Launch Netscape



## Features of a Page



## Edit Mode



## Table Creation



## Adding images



## Finish Product



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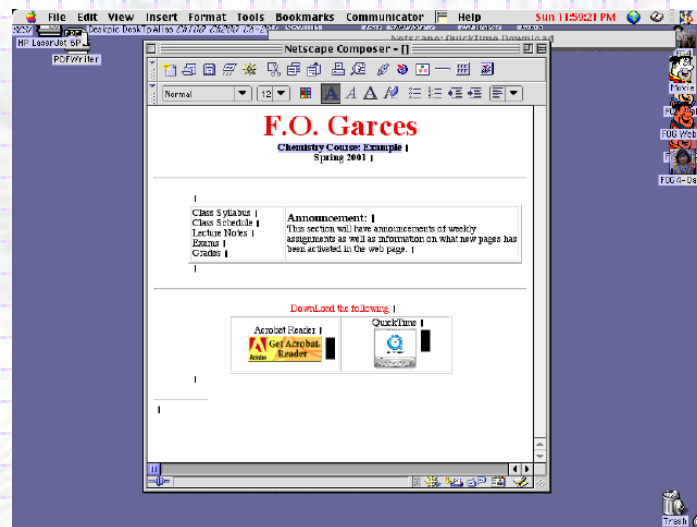


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# Netscape Composer

## Creating an index page



- Content
- Horizontal separator
- Table (alignment)
- image
- Target

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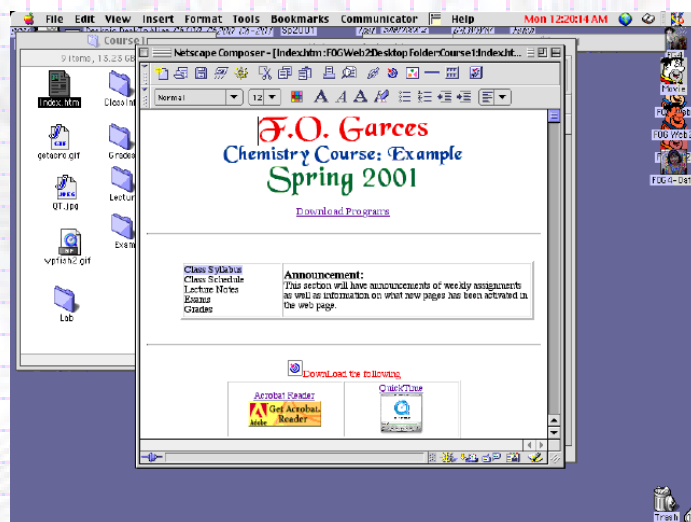
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# Netscape Composer

## Syllabus and schedule links



- Paths
- Linking syllabus and schedule to the index page

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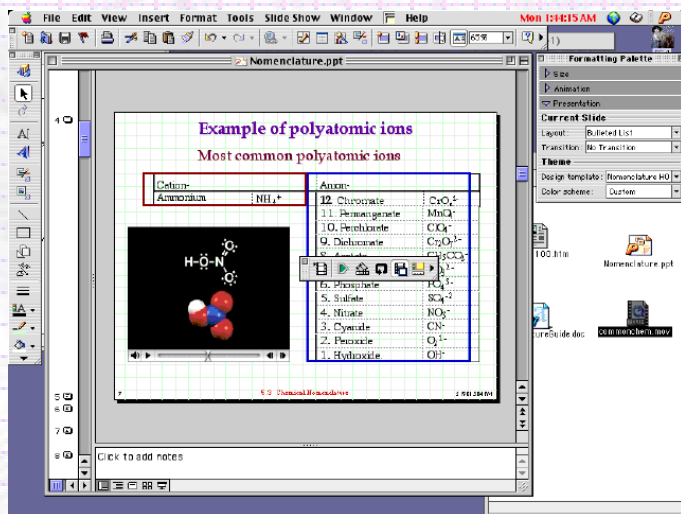


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# Netscape Composer

## Lecture Notes setup



- Office 2001
- PowerPoint QuickTime movies embedded in PP.
- Save as QuickTime movies
- Save as Acrobat Reader PDF
- Save HTML
- Word
- Save as PDF

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# Netscape Composer

## Index to Lecture Notes

- Path: link from lecture note page to

- PowerPoint HTML

- PowerPoint

- PP movies (QT)

- PDF

# Netscape Composer

## Index to Exam

- Webpage for exams

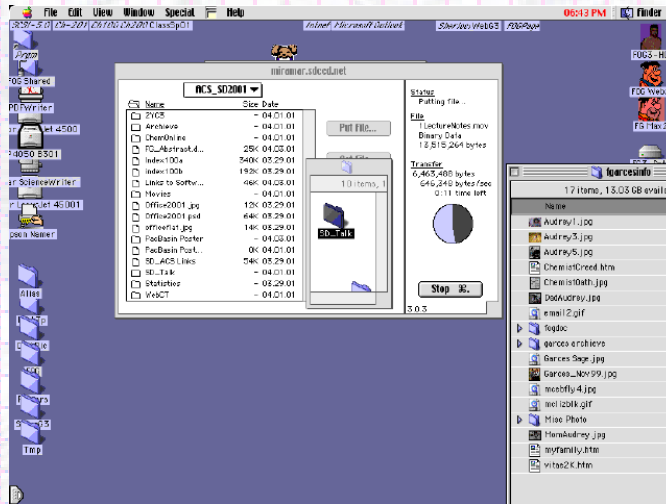
- HTML exam page with solution (scanned)

- Word, save as HTML

- Link to exam page

# Netscape Composer

## Index to Grades



### Excel

- Save Excel in PDF
- saved in index page

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# Netscape Composer

## Completing Index

### •Completing Index page

- Completing links in index page to appropriate documents /files.

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# Chem Web Page @ Miramar

## A Tour of Chem100 web page

The accumulation of information at the Miramar College Chemistry course webpage.

<http://www.miramar.sdccd.net/faculty/fgarces/>

# Up Loading Files to Server

Using an FTP program (Fetch) files are uploaded to the Miramar College Server.



Fetch3.0  
FTP  
Program



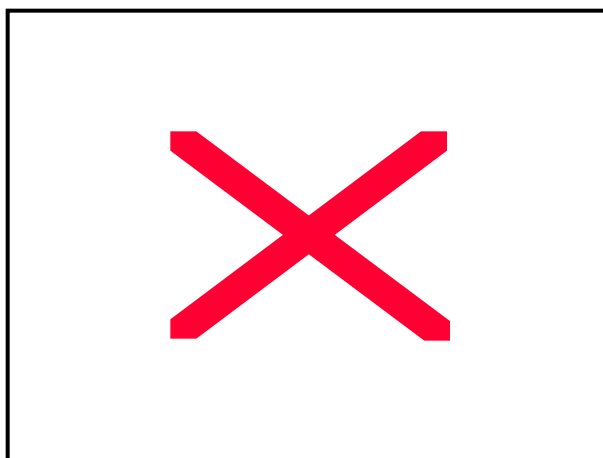
Linking to the Miramar College Server with Fetch



The server contains all the files and folder that has been developed. It is best to organize the files in folders so that information uploaded to the server is easily tracked.

## Up Loading Files to Server

Using an FTP program (Fetch), files are uploaded to the Miramar College Server.



### •Uploading

Files from the desktop is uploaded to the server using the Fetch Program.

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## Migration to WebCT

WebCT has been adopted by SDCCD. The idea of all SDCCD's online courses developed with WebCT will give a look and feel that is universal to all courses offered by SDCCD.



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# Distance Ed survey\* Bellevue Community College

Bellevue Community College has a survey online which students can take survey to determine if they are ready for distance learning.



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# Equipment check list Bellevue CC

An important factor whether students have a positive online experience is going to depend on their computer. Bellevue CC also provides a description of the minimum equipment necessary for an e-education.



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## Tools used to develop web page

Survey for Distance Ed <a href="http://distance-ed.bcc.ctc.edu/WebAssess/">http://distance-ed.bcc.ctc.edu/WebAssess/</a>	Survey to potential students considering distance education.
Equipment requirement <a href="http://distance-ed.bcc.ctc.edu/techspecs.htm">http://distance-ed.bcc.ctc.edu/techspecs.htm</a>	Description of minimum equipment for distance education
WWW Storage: FreeDrive 50 MB <a href="http://www.freedrive.com">www.freedrive.com</a> Myspace 300MB <a href="http://www.myspace.com">www.myspace.com</a> MyPlay 5GB <a href="http://www.myplay.com">www.myplay.com</a> Mac itools 20MB <a href="http://www.idisk.mac.com">www.idisk.mac.com</a>	Virtual storage where students can store data
Screen capture prgm: Flash-It, screenmovie... <a href="http://www.pure-mac.com/screen.html">http://www.pure-mac.com/screen.html</a>	Screen capture Shareware and Freeware that provides capture images from monitor.
Fetch 3.0.3 <a href="http://www.eskimo.com/~pristine/ftp.html#fetchomatic">http://www.eskimo.com/~pristine/ftp.html#fetchomatic</a>	Program to upload website to server
California Community Foundation <a href="http://www.foundationccc.org/student.asp">http://www.foundationccc.org/student.asp</a>	Software from Foundation at a reduced rate
F.O. Garces Link site <a href="http://www.miramar.sdccd.cc.ca.us/faculty/fgarces_ChemComon/Tutorial/Tutorial.htm">http://www.miramar.sdccd.cc.ca.us/faculty/fgarces_ChemComon/Tutorial/Tutorial.htm</a>	Tutorials and link for students.

## Conclusion

### Digital Resource:

Web-based methods of disseminating information to students are effective means of helping students help themselves to course (required and supplemental) material.

Big-bang approach to digitizing content is overwhelming. Piecemeal over time it is manageable.

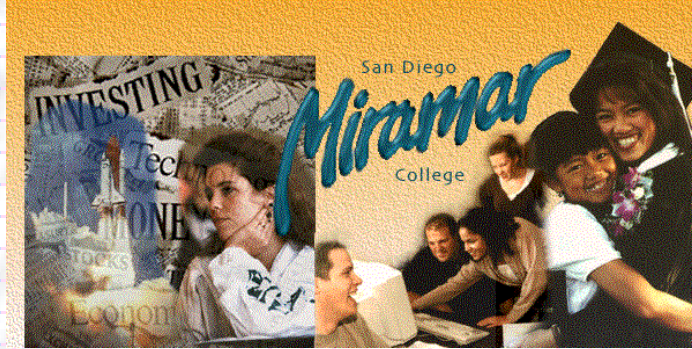
### Transformation:

Using Netscape Composer, Office, and Acrobat, transforming content to web friendly pages can be accomplished without knowledge of JAVA or HTML.

### Online Course:

Customizing course content, the step of offering the course online can be realized.

[www.miramar.sdccd.cc.ca.us/faculty/fgarces/](http://www.miramar.sdccd.cc.ca.us/faculty/fgarces/)



### **Acknowledgements**

*This work was supported by an Emerging  
Technology Innovation Grant (ETIG) from the  
San Diego Community College District*

*Dr. Figueroa, Prof Ric Matthew, Dr. Toto,  
Dr. Trubovitz, Dean Cuaron*