

# Educational Transfer Plan 2001

Network Gradebook:  
A customizable solution for  
schools and teachers

Andy Striemer

Concord High School: Computer Science

At SBC, Inc.

as an IISME fellow

# Background

While working at SBC, Inc. this summer, as an IISME fellow, a large portion of my time was spent creating an interface for an Access database. Not all the employees at SBC have Access on their machines, nor are many of the employees fascicle enough to be able to create custom queries to sift through the huge amounts of data that they require to do their jobs; however, they needed to access a vendor lookup database that was created in Access (and was too large to port to Excel). As all the employees have and are comfortable using Outlook the decision was to make Outlook the interface to get to the data.

I created a form in Outlook that was able to query the database, which was put in a centrally accessible location on their network. Employees were then able to load the form on their machines and get to the information they needed.

I began work on creating a web interface as well as that would be more portable in the long run.

# Description

The purpose of this project was to create a gradebook database that could be used by staff in an school environment where students have subject specific classes, thus it will probably be most easily used in Middle school, High school, and college environments. It was designed to be able to be used by an individual teacher on their workstation, but more importantly could be used in a networked environment.

The database was created in Access so as to be easily able to be customized should a school need to make changes.

I will be bringing the database to Concord High School and assisting staff in the use of the database. I will also be collecting data from them on the ease of use and on suggestions for improvement. In addition to informal assessment of observation and conversations with my peers, I will be distributing a form to them during the second semester to assess their comfort and usage of the program. My hope is that by the time all the staff have computers connected to the network (and perhaps before that using shared computers) at least 70% will be utilizing the shared gradebook. This will facilitate communication with parents and students as the information will be available on our Intranet and Internet web sites.

The project supports National Board Standard Collaborative Partnerships under Professional Development and Outreach. The project aids development of staff as professionals assisting them in the establishment of communication with students and parents as well as improving their professional practice.

A copy of the database will be available to be placed on the IISME web site for other schools/teachers to download for their own use. The database can also be retrieved from the Concord High Web site. When the web interface forms are completed they will be available there as well.

# Resources Used

The resources need to be able to utilize the gradebook as a stand alone program is at a minimum Access 2000, with Outlook 2000 required for the gradelookup interface that students can use to see their own grades.

To utilize the gradebook in a shared fashion on a network what is required is Access 2000 on a central machine (where the database will be located) and Outlook 2000 (and/or Access 2000) on any clients that wish to access the database.

I have started to create a web interface for the database and when complete the requirements for the networked database will be Access 2000 on a server that is also a web server. Internet Explorer 4 or better will be required on the client computer.

The Access database needs to be run on a PC. The Outlook forms are also designed to work only in a PC environment. The web interface, however, is usable on either Mac or PC (though the database itself still needs to be on a PC).

I started with the gradebook template available on Microsoft's web site. To modify the database I used the following software: Access 2000 and Outlook 2000. Additionally I am using Visual Interdev 6.0 for the creation of the web interface.

Books I referenced in my research include Beginning ASP Databases by John Kauffman (pub: Wrox, 1999); SAMS Teach Yourself Database Programming with Visual InterDev 6 in 21 Days by Crouch and Amundsen (pub: SAMS, 2000); Beginning SQL Programming by Kaufman, Matsik, and Spencer (pub: Wrox, 2001); and Database-Driven Web Sites by Morrison & Morrison (pub: Course Technology, 2000)

Web sites of great value: <http://msdn.microsoft.com/>, <http://www.15seconds.com/>, <http://www.w3schools.com/>, <http://www.devguru.com>

# Replicability

As a stand-alone gradebook, the program is fairly straightforward and thus should be relatively easy for teachers to use (assuming that they already have Access installed on their machines).

As a networked gradebook, once the system is setup the end user should have little trouble using the program whether using the Outlook or Internet Explorer interface.

The initial setup may be more difficult and would require someone very familiar (though not necessarily an expert) with Access and Outlook to setup the Outlook interface version. Setting up the database to support the web interface is also a task that would not be realistic for the average user, but should be relatively straightforward for someone who is already running a web server of their own.

# Assessment Procedure

In addition to informal feedback from teachers, students, and parents as they use the database I have also developed some questionnaires to be filled out at specific points in the usage process.

Form 1. Teacher Initial Response – Asks the teachers to provide feedback immediately after being introduced to the program.

Form 2. Teacher Extended Response – Asks the teachers to provide feedback after they have been using the program for at least 3 months.

Form 3. Student Response – Asks students to provide feedback on how easy the program is for them to use.

Form 4. Parent Response – Asks parents to provide feedback on the use of the program.

# Form 1. Teacher Initial Response

Please fill out this information within 3 days of starting to use the Network Gradebook program.

Name: \_\_\_\_\_

Subjects taught: \_\_\_\_\_

Using the program in which mode:

stand-alone                      network

On a scale of 1 to 5 please rate your basic computer skills.

1 -- Absolute beginner

2 -- Know enough to use a few basic programs

3 -- Pretty good with one program (like Word), but most everything else is only so so

4 -- Pretty good with a group of programs (like the Office suite), but not an expert by any means

5 -- Can use just about any program that you put in front of me

Have you ever used Access before?    No      Yes

Have you ever used another computerized gradebook before?      No      Yes, \_\_\_\_\_

Overall what has been your experience with the Network Gradebook so far?

1 -- Network what?

2 -- I tried it, but it wasn't for me

3 -- I tried it, but would need to have some changes made before I could use it day-to-day

4 -- I like it, I'm using it, but I do have a suggestion for improvement

5 -- It's great!

How would you describe its ease of use?

1 -- Only rocket scientists can use this thing

2 -- It's very confusing, I have trouble getting it to do what I want

3 -- It's challenging, there are parts that I can't remember how to do, but I'm making it

4 -- It's pretty easy to use, though there is something that keeps confusing me

5 -- No problems, very straightforward.

What is the most difficult aspect of using the database that you've found so far? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

What do you like best about the database so far? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

The database is customizable. What would you like to see added first were we to make any changes?

\_\_\_\_\_  
\_\_\_\_\_

# Form 2. Teacher Extended Response

Please fill out this information 3 to 6 months after using the Network Gradebook.

Name: \_\_\_\_\_

Subjects taught: \_\_\_\_\_

Time using Gradebook: \_\_\_\_\_ (months)

Using the program in which mode:

stand-alone

network

Overall what has been your experience with the Network Gradebook so far?

- 1 -- I kept trying to get it to work, but it just wasn't for me
- 2 -- I tried it, but need some changes made before I can use it practically
- 3 -- I'm using it, but would prefer to have it function differently
- 4 -- I'm using it, and like it a lot.
- 5 -- I'll never go back to paper!

How would you describe its ease of use?

- 1 -- Only rocket scientists can use this thing
- 2 -- It's very confusing, I have trouble getting it to do what I want
- 3 -- It's challenging, there are parts that I can't remember how to do, but I'm making it
- 4 -- It's pretty easy to use, though there is something that keeps confusing me
- 5 -- No problems, very straightforward.

What is the most difficult aspect of using the database that you've found so far? \_\_\_\_\_

\_\_\_\_\_

What do you like best about the database so far? \_\_\_\_\_

\_\_\_\_\_

The database is customizable. What would you like to see added first were we to make any changes?

\_\_\_\_\_

Are you using it for all your classes or only some of them?      All      Some

If only some, why? \_\_\_\_\_

\_\_\_\_\_

Other comments? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

# Form 3. Student Response

Please fill out this information after having used the Network Gradebook program.

Name: \_\_\_\_\_

Grade level: \_\_\_\_\_

Classes for which you are able to use the Gradebook program: \_\_\_\_\_

---

Using the program with which interface:

Outlook

Web

On a scale of 1 to 5 please rate your basic computer skills (not including games).

1 -- Absolute beginner

2 -- Know enough to use a few basic programs

3 -- Pretty good with one program (like Word), but most everything else is only so so

4 -- Pretty good with a group of programs (like the Office suite), but not an expert by any means

5 -- Can use just about any program that you put in front of me

Have you ever used Outlook before? No      Yes

Have you ever had computerized access to your grades before?      No      Yes, \_\_\_\_\_

Overall what has been your experience with the Network Gradebook so far?

1 -- Network what?

2 -- I tried it, but it wasn't for me

3 -- It's alright, but should really provide more information

4 -- It's pretty good, but I would make a slight change

5 -- It's great!

How would you describe its ease of use?

1 -- Only rocket scientists can use this thing

2 -- It's very confusing, I have trouble getting it to do what I want

3 -- It's challenging, there are parts that I can't remember how to do, but I'm making it

4 -- It's pretty easy to use, though there is something that keeps confusing me

5 -- No problems, very straightforward.

What is the most difficult aspect of accessing the database that you've found so far? \_\_\_\_\_

---

What do you like best about the database so far? \_\_\_\_\_

---

The database is customizable. What would you like to see added first were we to make any changes?

---

---

# Form 4. Parent Response

Please fill out this information after having used the Network Gradebook program.

Name: \_\_\_\_\_

Name of child(ren): \_\_\_\_\_

Child's Grade level: \_\_\_\_\_

Classes for which you are able to use the Gradebook program: \_\_\_\_\_

On a scale of 1 to 5 please rate your basic computer skills.

1 -- Absolute beginner

2 -- Know enough to use a few basic programs

3 -- Pretty good with one program (like Word), but most everything else is only so so

4 -- Pretty good with a group of programs (like the Office suite), but not an expert by any means

5 -- Can use just about any program that you put in front of me

Do you use the Internet more than 1 hour a week?    No    Yes

Have you ever had computerized access to grades before?    No    Yes

If yes, what program/website was being used \_\_\_\_\_

Overall what has been your experience with the Network Gradebook so far?

1 -- Network what?

2 -- I tried it, but it wasn't for me

3 -- It's alright, but should really provide more information

4 -- It's pretty good, but I would make a slight change

5 -- It's great!

How would you describe its ease of use?

1 -- Only rocket scientists can use this thing

2 -- It's very confusing, I have trouble getting it to do what I want

3 -- It's challenging, there are parts that I can't remember how to do, but I'm making it

4 -- It's pretty easy to use, though there is something that keeps confusing me

5 -- No problems, very straightforward.

What is the most difficult aspect of accessing the database that you've found so far? \_\_\_\_\_

\_\_\_\_\_

What do you like best about the database so far? \_\_\_\_\_

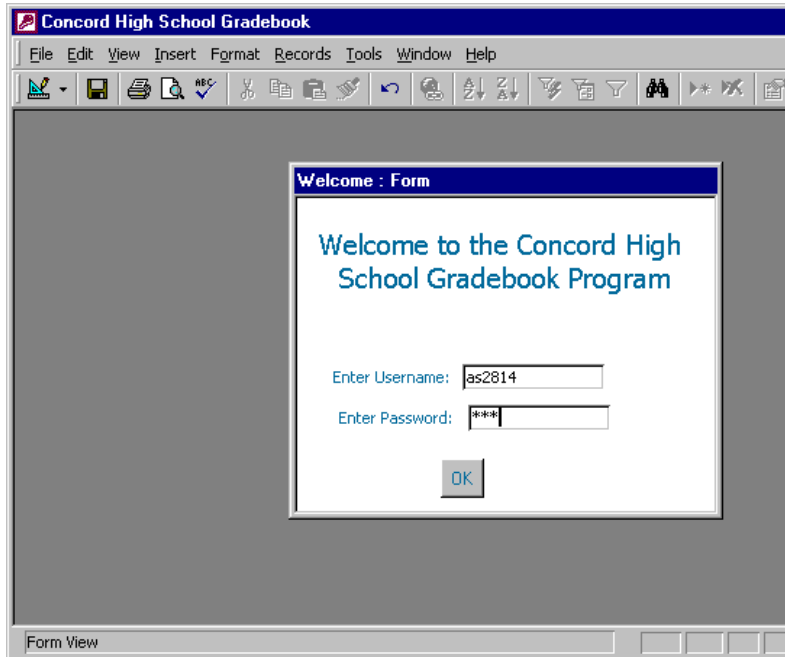
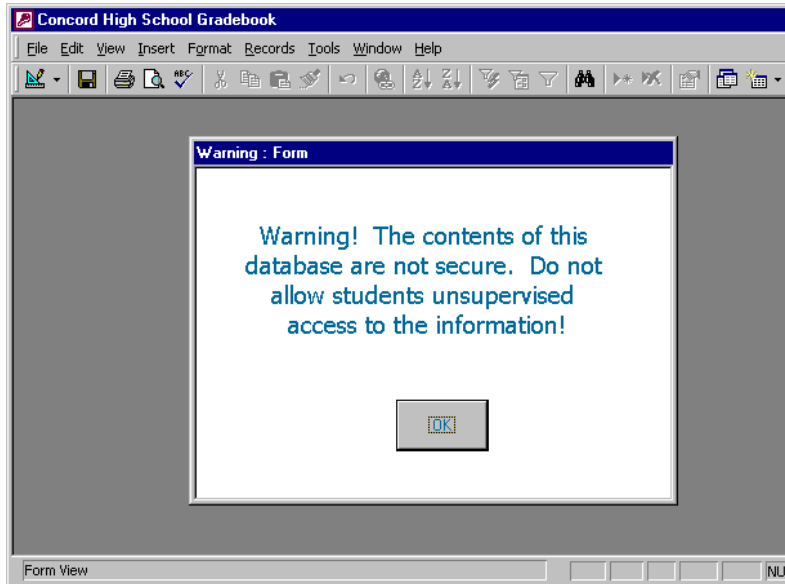
\_\_\_\_\_

The database is customizable. What would you like to see added first were we to make any changes?

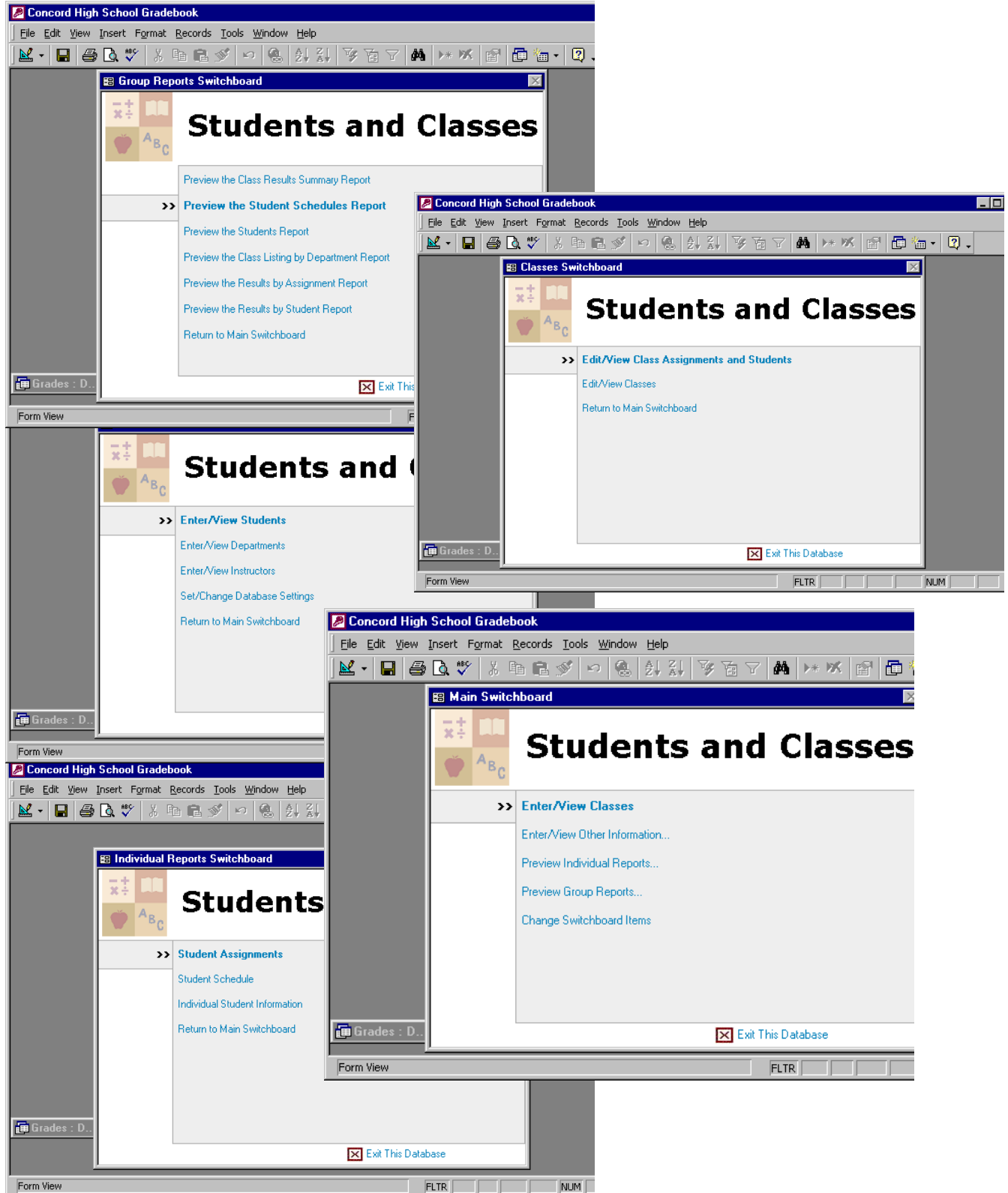
\_\_\_\_\_

\_\_\_\_\_

# Logging onto the Database



# Option Screens



# Entering Students, Assignments, and Grades

**Concord High School Gradebook**

File Edit View Insert Format Records Tools Window Help

**Classes**

Students... Assignments... Previous Class Next Class End Class Update Grades Return Swit

Class Name: ROP Networking Class ID: 11  
 Instructor: David Perry Section #: 1  
 Department: Computer Science Term: Fall  
 Period: 0 Year: 2002  
 Location: 508 Notes:  
 Units: 5

Students:

Student	Username	Phone Number	Grade
▶ Pastrick, Richard	rpastrick	(999) 999-9999	A- (3.4)
Jackson, Joshua	jackson	(999) 999-9999	B+ (3.3)

**Concord High School Gradebook**

File Edit View Insert Format Records Tools Window Help

**Students**

Gradebook ID: 12 Phone Number: (999) 999-9999  
 Student Number: 10002 Address: 1234 asdl  
 First Name: Richard City: aslkdf  
 Last Name: Pastrick Postal Code: 99999-9999  
 Parents Names: yes username: rpastrick  
 Password: \*\*\*

Classes:

Class Name	Instructor	Department Name	
▶ ROP Networking	David Perry	Computer Science	A- (3.4)
ROP Computer Programming	Andy Striemer	Computer Science	C+ (2.2)

Assignments:

Assignment Description	Exam	Percent of G	Maximum Poin
▶ Chapter 1	<input type="checkbox"/>	10.00%	10
Chapter 2	<input type="checkbox"/>	10.00%	10

**Concord High School Gradebook**

File Edit View Insert Format Records Tools Window Help

**Class Assignments**

Total % of Grade Def: 100.0% % of Grade without Extra Credit: 100.0%

Attendees:

Assignment Description	Exam	Extra Credit	Percent of Gra
▶ Chapter 1	<input type="checkbox"/>	<input type="checkbox"/>	10.00%
Chapter 2	<input type="checkbox"/>	<input type="checkbox"/>	10.00%
Chapter 3	<input type="checkbox"/>	<input type="checkbox"/>	10.00%
Chapter 4	<input type="checkbox"/>	<input type="checkbox"/>	10.00%
Chapter 5	<input type="checkbox"/>	<input type="checkbox"/>	10.00%

Grades:

Student	Score	Late	Extra Credit
▶ Pastrick, Richard	9	<input type="checkbox"/>	<input type="checkbox"/>
Jackson, Joshua	8	<input type="checkbox"/>	<input type="checkbox"/>
*		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Form View

# Changing Settings

**Concord High School Gradebook**

File Edit View Insert Format Records Tools Window Help

Tahoma 8 B I U

Forms Switch Settings : Form

### Gradebook Default Settings

Late Work Penalty

Instructor: Andy Striemer

Penalty for: Andy Striemer

Penalty for: 0

If there is no penalty for late work, enter 0

Grading Scale

Instructor: Andy Striemer

Cutoff point for A: 0.9

Cutoff point for B: 0.8

Cutoff point for C: 0.7

Cutoff point for D: 0.6

Note: This is the point value on a percentage scale. Actual grades are based on 4 point scale.

Finished

**Concord High School Gradebook**

File Edit View Insert Format Records Tools Window Help

Instructors

Instructor ID: 10

Instructor: Andy Striemer

Email Name: astriemer

Phone Number: (999) 999-9999

Extension: 123

Username: as2814

Password: \*\*\*

Previous Instructor Next Instructor Add New Instructor Delete Instructor Return to Other Switchboard

# Reports on Individual Students

The image displays two screenshots of the Concord High School Gradebook software interface. The top screenshot shows the 'Student Schedules' report for a student, and the bottom screenshot shows the 'Results by Student' report for the same student.

**Concord High School Gradebook - [Student Schedules]**

StudentID: 12                      rpastrick                      @concordhs.org

Pastrick, Richard  
1234 asdl  
asklotf, 999999999  
(999) 999-9999

Class ID	Department	Section #	Class Name	Instructor	Units	Location
10	Computer Science	1	ROP Computer Programming	Andy Striemer	5	508
11	Computer Science	1	ROP Networking	David Perry	5	508

**Concord High School Gradebook**

**Results by Student**

Class Name                      ROP Computer Programming

Student Name                      Jackson, Joshua

Assignment Description	% of Grade Exam	Max Points	Score
report	10.00% <input checked="" type="checkbox"/>	200	11
test chap 2	20.00% <input checked="" type="checkbox"/>	100	1
chap 1 pp	20.00% <input type="checkbox"/>	100	1
chap 2 pp	20.00% <input type="checkbox"/>	100	11
midterm	10.00% <input checked="" type="checkbox"/>	200	21
final	20.00% <input checked="" type="checkbox"/>	200	11

# Reports on Classes

Concord High School Gradebook - [Class Results Summary]

File Edit View Tools Window Help

75% Close

## Class Results Summary

Department Name Computer Science  
Class Name ROP Computer Programming  
Section Number 1  
Instructor Andy Striemer  
Units 5  
Location 508  
Period 5

Student ID	Student Name	Phone Number	Username
13	Jackson, Joshua	(999) 999-9999	jjackson
12	Pastrik, Richard	(999) 999-9999	rpastrik

Page: 1 Ready

Concord High School Gradebook - [Class Listing by Department]

File Edit View Tools Window Help

75% Close

## Class Listing by Department

Computer Science

Class Name	Section #	Term	Units	Instructor	Location
ROP Computer Programming	1	Fall	5	Andy Striemer	508
ROP Networking	1	Fall	5	David Perry	508

Science

Class Name	Section #	Term	Units	Instructor	Location
Science Connections II	1	Fall/Spring	5	Rodger Johnson	608

Page: 1 Ready

# Outlook Interface for Students/ Parents to view grades

The screenshot shows an Outlook window titled "Untitled - Get Grades". The menu bar includes "File", "Edit", "View", "Insert", "Tools", "Actions", and "Help". The toolbar contains icons for "Post Reply", "Send", "Reply", "Print", "New", "Close", "Up", "Down", and "Help".

Below the toolbar, there are two input fields: "Student name" with a dropdown menu showing "Pastrick" and "Student ID number" with a text box containing "10002".

A tooltip message reads: "You can type a partial student name and choose th".

The main content area is titled "Assignments" and contains a table with the following data:

Assignment Description	Percent of Grade	Score	Maximum Points
report	0.1	55	200
test chap 2	0.2	95	100
chap 1 pp	0.2	98	100
chap 2 pp	0.2	100	100
midterm	0.1	110	200
final	0.2	65	200