SFD GRADES DATABASE USER MANUAL

OVERVIEW

The School for Deacons (SFD) Grades database consists of two main components: a MySQL relational database, used for storing information, and a Web application (written in PHP) used to access the MySQL database. This "relational" database models the relationships between different objects. The SFD Grades database contains the following objects:

Student

An individual student. The *Students* table contains one record per student, consisting of the student's name (first and last), status (active or inactive), graduation date, and degree received, if any.

Course

An individual course listed in the SFD catalog. The *Courses* table contains one record per course, consisting of the course's ID, name, description, status (active or inactive), credits, and when a student normally takes the course ("Year 1 Fall", "Year 1 Spring", "Year 2 Fall", "Year 2 Spring", "Year 3 Fall", "Year 3 Spring", or "Not Applicable".)

Instructor

An individual instructor. The *Instructors* table contains one record per instructor, consisting of the instructor's name (first and last) and status (active or inactive).

An "active" student, course, or instructor is one which is currently associated with SFD activities. An "active" student is either currently taking classes and/or has not yet graduated. An "active" course is currently offered during the SFD school year. An "active" instructor is currently on the SFD payroll and/or is currently teaching a course. Only "active" students, courses, and instructors will be visible in drop-down lists.

Once a student, course, or instructor record has been added, it can be linked (or "related") to other objects as follows:

Courses Per Semester

Semesters consist of a 4-digit year and a season (either Fall or Spring). For each semester, a group of courses are taught by a group of instructors. The *Courses Per Semester* form links a given semester with active courses and active instructors.

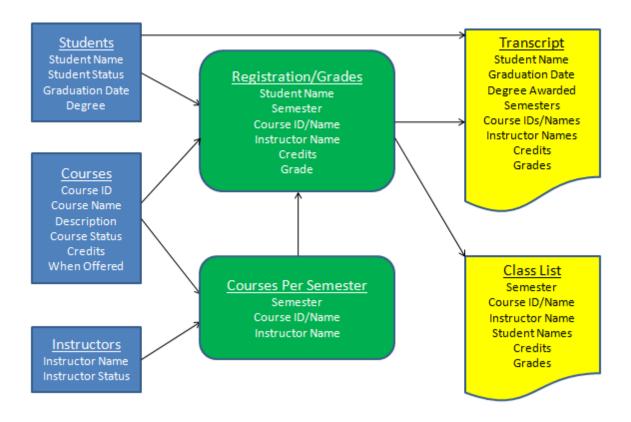
Student Registration

A student can register for multiple courses offered during a given semester. The **Student Registration** form creates links between active students and courses offered for a semester (created through the **Courses Per Semester** form.)

Student Grades

Once a student is registered for courses, they can receive grades and credits for those courses. The **Student Grades** form allows an administrator to add grade and credit information for student registration records (created through the **Student Registration** form.)

Data flows through the system as follows:



Anything on the left MUST exist before creating something to the right of it. For example, before you can enter a **Courses Per Semester** record, you have to enter the corresponding records in **Courses** and **Instructors**.

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Log In



To open the SFD Grades Database application, open a Web browser on the machine hosting the database and go to http://localhost/sfdgrades. If you haven't logged in to the application since you last opened your browser, the log in screen will appear. Type in your login name and password for the application, then click "Submit".



If you enter an incorrect username or password, or if you leave either field blank, the log in screen will display an error message. (All error messages in the application will be displayed similarly, as bold red text in the upper left corner of the screen after the page title.) Enter the correct username and password and click "Submit" again.

If you enter incorrect information more than five times, the application will exit.

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MAIN MENU



The main menu contains links to all of the application's forms, divided into three sections:

Add/Update/Delete Records

Screens to enter object records for students, courses, and instructors.

Registration and Grades

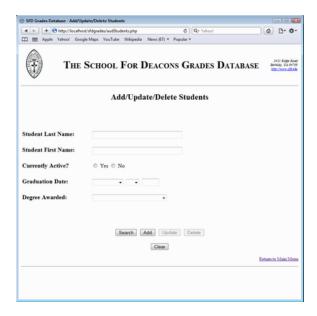
Screens to enter relationship records for courses per semester and student registration and grades.

Reports

Screens to create printed reports.

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STUDENTS



Clicking the "Students" link in the main menu brings up the **Add/Update/Delete Students** form. The initial form is blank.

To add a new student, fill in the student's first and last name and click the "Yes" button next to "Currently Active". Leave the Graduation Date and Degree Awarded fields blank. (These fields should be left blank until the student actually graduates.) Click "Add".

NOTE: The program will capitalize each word in the student first and last name fields. For names with an embedded capital letter (i.e. "McNeely"), put a space before the second capital ("Mc Neely") to get the correct capitalization.

If the student record already exists in the database, the form will show an error message, and the existing record will be displayed for update.

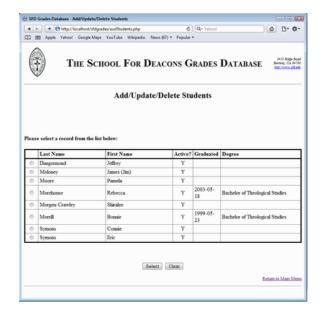
To update or delete a student, you will need to first find the student's record in the database. To *search* for a student, fill in the form fields with the appropriate search values and click "Search".

If you search by the last or first name field, the database will return any entries which *contain* the search values (regardless of letter case) anywhere within the name. For example, searching a last name of "Mo" would return both "**Mo**rehouse" and "Dange**mo**nd".

To clear all the field information, click "Clear".

To return to the main menu, click "Return to Main Menu" in the bottom right corner.

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If the search returns more than one match, a list of students matching the search criteria will be displayed.

To *select* a student to update or delete, click the round button next to the student's name, then click "Select".

If you want to go back to the input form without selecting a student, click "Clear".

To go back to the main menu, click "Return to Main Menu" in the bottom right corner.



Once you've selected an existing student, you can change the information in the student record.

To *update* the student, change the entries on the form to the new values, then click "Update". If a student has graduated, fill in the graduation date by highlighting the graduation month and day in the "Graduation Date" drop-down lists and typing in the graduation year. Select the appropriate degree from the "Degree Awarded" drop-down list. **NOTE:** If a degree has been awarded, the graduation date cannot be blank.

To delete a student, click "Delete". **NOTE:** Deleting a student will delete *all* of the student's registration and grade information. If you want to remove a student from the drop-down lists, make the student inactive by clicking the "No" button next to "Currently Active", then clicking "Update". The student's grade and registration information will remain intact, but the student will no longer be displayed in the active lists.

To clear all the field information, click "Clear".

To return to the main menu, click "Return to Main Menu" in the bottom right corner.

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COURSES

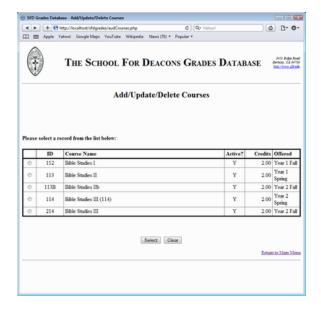


Clicking the "Courses" link in the main menu brings up the **Add/Update/Delete Courses** form. The initial form is blank.

To add a new course, fill in the appropriate course information and click "Add". You must supply the course ID, course name, active status (Yes or No), course credits, and when the course is normally offered. For the last field, select the appropriate semester from the "Normally Offered" drop-down list. If the course is not normally offered during a given semester (e.g. an elective) choose "Not Applicable". Providing a course description is optional, but encouraged.

If the course record already exists in the database, the form will show an error message, and the existing record will be displayed for update.

To update or delete a course, you will need to first find the course's record in the database. To *search* for a course, fill in the form fields with the appropriate search values and click "Search". If you search by the course name or description fields, the database will return any entries which *contain* the search values (regardless of letter case) anywhere within the field.



If the search returns more than one match, a list of courses matching the search criteria will be displayed.

To *select* a course to update or delete, click the round button next to the course's ID, then click "Select".

If you want to go back to the form without selecting a course, click "Clear".

To go back to the main menu, click "Return to Main Menu" in the bottom right corner.

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Once you've selected an existing course, you can change the information in the course record.

To *update* the student, change the entries on the form to the new values, then click "Update".

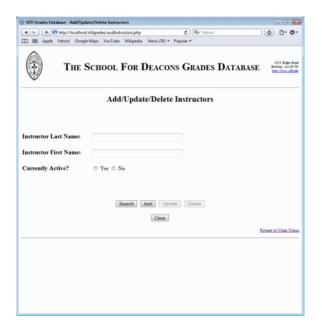
To *delete* a course, click "Delete". **NOTE:** Deleting a course will set *all* registration and grade records for this course to UNASSIGNED. If you want to remove a course from the drop-down lists, make the course inactive by clicking the "No" button next to "Currently Active", then clicking "Update". The course's grade and registration information will remain intact, but the course will no longer be displayed in the active lists.

To clear all the field information, click "Clear".

To return to the main menu, click "Return to Main Menu" in the bottom right corner.

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INSTRUCTORS



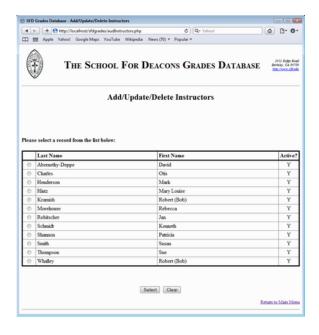
Clicking the "Instructors" link in the main menu brings up the **Add/Update/Delete Instructors** form. The initial form is blank.

To *add* a new instructor, fill in the instructor's first and last name and click the "Yes" button next to "Currently Active". Click "Add".

NOTE: The program will capitalize each word in the instructor first and last name fields. For names with an embedded capital letter (i.e. "McCormack"), put a space before the second capital ("Mc Cormack") to get the correct capitalization.

If the instructor record already exists in the database, the form will show an error message, and the existing record will be displayed for update.

To update or delete a instructor, you will need to first find the instructor's record in the database. To *search* for a instructor, fill in the form fields with the appropriate search values and click "Search". If you search by the last or first name field, the database will return any entries which *contain* the search values (regardless of letter case) anywhere within the name.



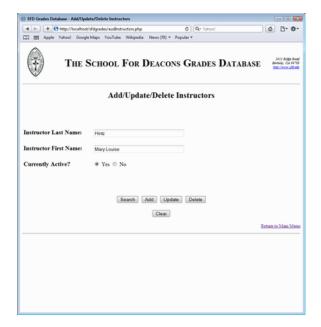
If the search returns more than one match, a list of instructors matching the search criteria will be displayed.

To *select* a instructor to update or delete, click the round button next to the instructor's name, then click "Select".

If you want to go back to the form without selecting a instructor, click "Clear".

To go back to the main menu, click "Return to Main Menu" in the bottom right corner.

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Once you've selected an existing instructor, you can change the information in the instructor record.

To *update* the instructor, change the entries on the form to the new values, then click "Update".

To delete a instructor, click "Delete". **NOTE:**Deleting a instructor will set all of the instructor's registration and grade information to UNASSIGNED. If you want to remove a instructor from the dropdown lists, make the instructor inactive by clicking the "No" button next to "Currently Active", then clicking "Update". The instructor's grade and registration information will remain intact, but the instructor will no longer be displayed in the active lists.

To clear all the field information, click "Clear".

To return to the main menu, click "Return to Main Menu" in the bottom right corner.

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COURSES PER SEMESTER



Clicking the "Courses Per Semester" link in the main menu brings up the **Add/Update/Delete Courses Per Semester** form. This form is used to indicate which courses will be taught by which instructors during a given semester.

NOTE: Before entering this information, all of the course and instructor records *must* have been entered into the database through the **Courses** and **Instructors** forms, and have their "Currently Active?" value set to "Yes".

The initial form is blank. To add a new class for a semester, after "Semester (Year/Season):", fill in the 4-digit semester year in the text box, then highlight the appropriate season ("Fall" or "Spring") in the following drop-down list. Select the Course and Instructor values from their corresponding drop-down lists, then click "Add".

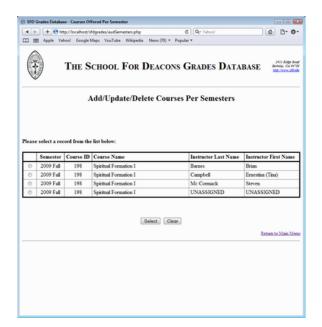
For example, if Rod Dugliss was teaching Homiletics II during Fall 2010, you would do the following:

- 1. After "Semester (Year/Season):":
 - a. enter "2010" in the first box
 - b. select "Fall" from the drop-down list
- 2. After "Course:", find and highlight "Homiletics II" in the drop-down list.
- 3. After "Instructor:", find and highlight "Dugliss, Rod" in the drop-down list.
- 4. Click "Add".

If the corresponding record already exists in the database, the form will show an error message, and the existing record will be displayed for update.

To update or delete a class, you will need to first find its record in the database. To *search* for a class, fill in the form fields with the appropriate search values and click "Search".

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If the search returns more than one match, a list of classes matching the search criteria will be displayed.

To *select* a class to update or delete, click the round button next to the semester, then click "Select".

If you want to go back to the form without selecting a class, click "Clear".

To go back to the main menu, click "Return to Main Menu" in the bottom right corner.



Once you've selected an existing class, you can change the information in the record.

To *update* the class, change the entries on the form to the new values, then click "Update".

To add a *new* class with similar values (for example, a separate session with a different instructor), change the appropriate values, then click "Add". If you don't change any values (i.e. you try to add the same class again), the form will show an error message, and the existing record will be displayed for update.

To *delete* a class, click "Delete". **NOTE**: Deleting a class will remove *all* of the corresponding registration and grade information.

To clear all the field information, click "Clear".

To return to the main menu, click "Return to Main Menu" in the bottom right corner.

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STUDENT REGISTRATION



Clicking the "Student Registration" link in the main menu brings up the **Student Registration** form. This form is used to register students for courses for a given semester.

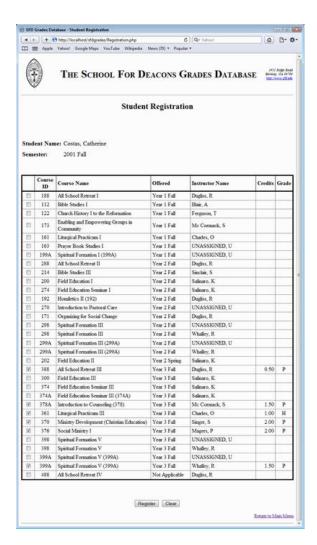
NOTE: Before entering this information, all student, course, instructor, and courses per semester records *must* have been entered into the database through the appropriate forms. Students must have their "Currently Active?" value set to "Yes".

The initial form is blank. To *register* a student, you will need to provide both student and semester information. Select the student from the "Student" drop-down list. After "Semester (Year/Season):", fill in the 4-digit semester year in the text box, then highlight the appropriate season ("Fall" or "Spring") in the following drop-down list. Click "Search".

For example, if you wanted to register Virginia McNeely for classes in Fall 2010, you would do the following:

- After "Student:", find and highlight "Mc Neely, Virginia" in the drop down list.
- 2. After "Semester (Year/Season):":
 - a. enter "2010" in the first box
 - b. select "Fall" from the drop-down list
- 3. Click "Search".

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The program will display a list of all classes being offered for the semester, sorted by the semester normally offered and course ID. To register the student for classes, click the checkbox(es) next to the classes the student will be taking. Click "Register" to update the student's registration.

If a student had previously been registered for a class in the given semester, the checkbox for that class will already be checked. If you want to "deregister" a student, click the checkbox next to the class to uncheck it. When you click "Register", the student's registration for that class will be removed. **NOTE:** Deregistering a student will remove *all* grade information for that class. To mark a student as "Withdrawn", use the **Student Grades** form to update the student's grade information.

To exit without changing the registration information, click "Clear".

To return to the main menu, click "Return to Main Menu" in the bottom right corner.

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STUDENT GRADES

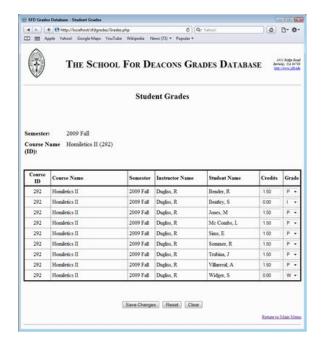


Clicking the "Student Grades" link in the main menu brings up the **Student Grades** form. This form is used to assign grades and course credits to students registered in courses for a given semester.

NOTE: Before entering this information, all student, course, instructor, and courses per semester records *must* have been entered into the database through the appropriate forms, and students *must* have been registered for courses through the **Student Registration** form.

The initial form is blank. You will need to *search* the database for the appropriate grades to update. For this search, you *must* provide the semester information. After "Semester (Year/Season):", fill in the 4-digit semester year in the text box, then highlight the appropriate season ("Fall" or "Spring") in the following drop-down list. You may also choose a course, instructor, and/or student to search for from their corresponding drop-down lists. Click "Search".

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The program will display a list of records matching your search criteria. Find the student grade record you want to update. You can update the credit and grade information for a student by clicking the fields in the "Credits" and/or "Grade" columns next to the student's name.

In the "Grade" drop-down box, you can select one of the following grade values:

"E"	Enrolled	"H"	Honors
"P"	Pass	"Y"	Grade Delayed
" "	Incomplete	"F"	Fail
"A"	Audit	"W"	Withdrawn

The "Credits" field contains the number of credits the student received for this course. You can either type in an appropriate value, or leave the field blank. If the field is blank when you save changes, the form will set the credits based on the grade.

If you enter "P" or "H" and leave the "Credits" field blank, the program will fill in the credits field with the corresponding value from the Courses table for this course. If you enter "E", "W", or "F" and leave the "Credits" field blank, the program will set the credits value to 0.

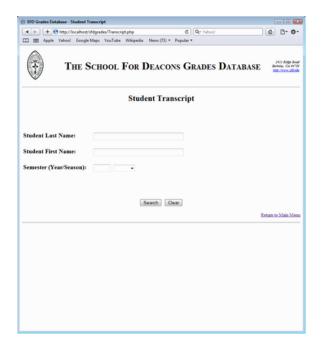
NOTE: The automatic credits update *only* takes place if the "Credits" field is *blank* (*not* 0) when you save changes. If there is *any* value in the "Credits" field when you save changes, it will be stored in the database as is.

To save your changes, click the "Save Changes" button. If you have made changes but don't want to save them, click "Reset" to restore the original values. To exit without changing any information, click "Clear".

To return to the main menu, click "Return to Main Menu" in the bottom right corner.

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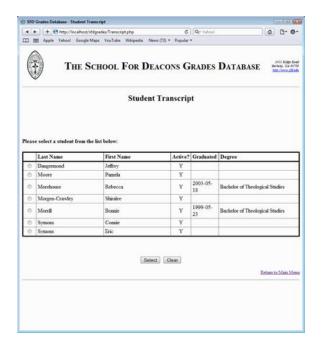
STUDENT TRANSCRIPT



Clicking the "Student Transcript" link in the main menu brings up the **Student Transcript** form. This form is used to display and print a student's transcript, either in toto or for a single semester.

The initial form is blank. You will need to *search* the database for the appropriate student transcript to print. Fill in the search fields with the appropriate information and click "Search". If you search by the student last or first name field, the database will return any entries which *contain* the search values (regardless of letter case) anywhere within the name. To see the transcript for only a given semester, after "Semester (Year/Season):", fill in the 4-digit semester year in the text box, then highlight the appropriate season ("Fall" or "Spring") in the following drop-down list.

None of the search fields is required. If you don't provide a search value, the program will search for all active students.



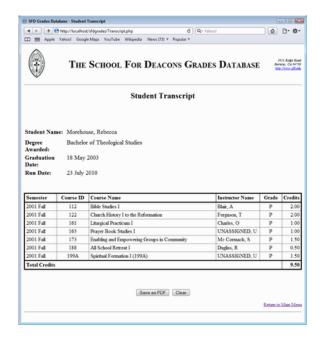
If the search returns more than one match, a list of students matching the search criteria will be displayed.

To *select* a student, click the round button next to the student's name, then click "Select".

If you want to go back to the form without selecting a student, click "Clear".

To go back to the main menu, click "Return to Main Menu" in the bottom right corner.

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Once you've selected a student, their transcript will be displayed on the screen. If you entered a semester value, only the information for that semester will be shown. The total number of credits the student received will be displayed in the lower right corner. If the student has graduated, their degree and graduation date will be shown in the report header.

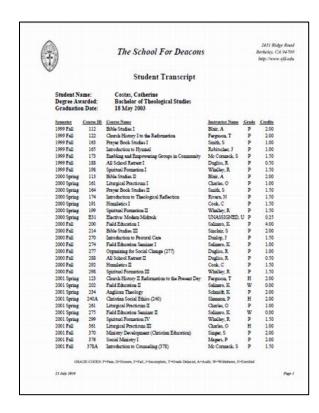
If you want to print or save the transcript as a PDF file, click "Save as PDF".

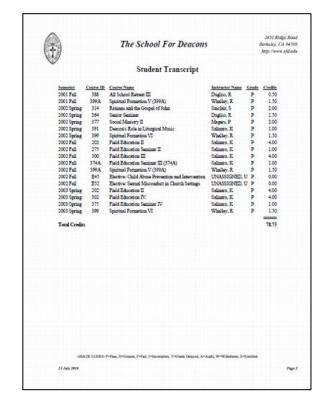
To return to the search form, click "Clear".

To go back to the main menu, click "Return to Main Menu" in the bottom right corner.

If you click "Save as PDF", the PDF viewer will give you the options of opening the report or saving it. If you open the report, it will be displayed on the screen. From there, you can both save and print it. If you save the report, by default the program will save the file as "Transcript_studentname.pdf".

When you've finished with the PDF file, close the PDF reader. The transcript screen will still be displayed.





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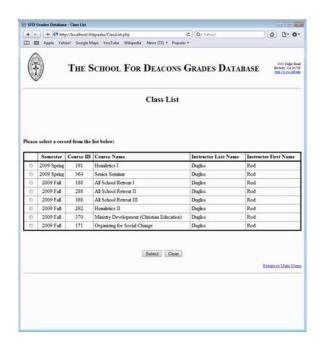
CLASS LIST



Clicking the "Class List" link in the main menu brings up the **Class List** form. This form is used to display and print the list of students in a particular class.

The initial form is blank. You will need to *search* the database for the appropriate class list to print. Fill in the search fields with the appropriate information and click "Search". You may search for a particular instructor and/or course by highlighting the corresponding information in the drop-down lists. To search by semester, after "Semester (Year/Season):", fill in the 4-digit semester year in the text box, then highlight the appropriate season ("Fall" or "Spring") in the following drop-down list.

None of the search fields is required. If you don't provide a search value, the program will search for all active courses for all semesters.



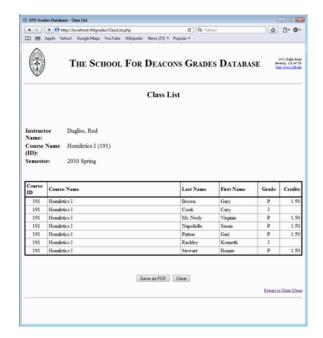
If the search returns more than one match, a list of classes matching the search criteria will be displayed.

To *select* a class, click the round button next to the semester, then click "Select".

If you want to go back to the form without selecting a class, click "Clear".

To go back to the main menu, click "Return to Main Menu" in the bottom right corner.

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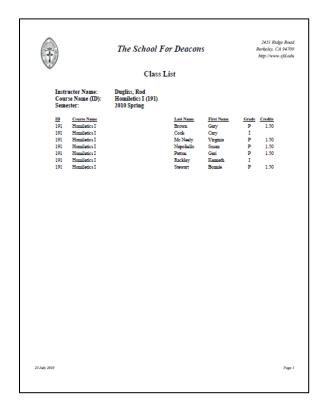


The class list will be displayed on the screen. The list contains one line per student, along with their current grade and awarded credits, if any.

If you want to print or save the class list as a PDF file, click "Save as PDF".

To return to the search form, click "Clear".

To go back to the main menu, click "Return to Main Menu" in the bottom right corner.



If you click "Save as PDF", the PDF viewer will give you the options of opening the list or saving it. If you open the list, it will be displayed on the screen. From there, you can both save and print it. If you save the list, by default the program will save the file as "ClassList_instructor_courseid_semester.pdf".

When you've finished with the PDF file, close the PDF reader. The class list screen will still be displayed.

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CHANGING YOUR PASSWORD

The SFD Grades Application stores user names and passwords in its MySQL database. To change your password, do the following:

- 1. Open a command prompt window:
 - a. Click on the "Start" menu
 - b. Click on "All Programs"
 - c. Click on "Accessories"
 - d. Click on "Command Prompt"
- 2. At the Command Prompt, type the following command:

```
mysql -uusername -ppassword -Dsfdgrades
```

where username is your user name and password is your current password.

3. At the mysql prompt (mysql>), type the following command:

```
set password = password('newpassword');
```

where newpassword is your new password. The program should respond with:

```
Query OK, 0 rows affected (0.00 sec)
```

4. At the mysql prompt (mysql>), type the following command:

```
commit;
```

The program should respond with:

```
Query OK, 0 rows affected (0.00 sec)
```

5. At the mysql prompt (mysql>), type the following command:

```
exit;
```

The program should respond with:

```
Вує
```

and return you to the Command Prompt.

6. At the Command Prompt, type the following command:

```
exit
```

The Command Prompt window will close.

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BACKING UP THE DATABASE

- 1. Create a backup directory on a separate hard disk or writable DVD.
- 2. Copy the following directories to the backup directory:
 - a. C:\Program Files\Apache Software Foundation\Apache2.2\htdocs\sfdgrades
 - b. C:\Program Files\Apache Software Foundation\Apache2.2\htdocs\include
- 3. Open a command prompt window:
 - a. Click on the "Start" menu
 - b. Click on "All Programs"
 - c. Click on "Accessories"
 - d. Click on "Command Prompt"
- 4. At the Command Prompt, type the following command:

```
mysqldump -usfdowner -psfdownerpw sfdgrades > "backupdir\sfdgrades.YYYYMMDD.sql"
```

where <code>sfdownerpw</code> is the password for the <code>sfdowner</code> account, <code>backupdir</code> is the backup directory you created, and <code>YYYYMMDD</code> is the current date (4-digit year, 2-digit month, 2-digit day).

5. At the Command Prompt, type the following command:

exit

The Command Prompt window will close.

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DATABASE SCHEMA

TABLES

Students

Primary Key: StudentID

Unique Index: StudentLastName, StudentFirstName

<u>Field Name</u>	<u>Type</u>	Reqd?	<u>Notes</u>
StudentID	integer unsigned	Yes	auto_increment >1000
StudentLastName	varchar(40)	Yes	
StudentFirstName	varchar(40)	Yes	
StudentActive	Boolean	Yes	default TRUE
StudentGraduationDate	date	No	
StudentDegreeAwarded	varchar(64)	No	

Courses

Primary Key: CourseID Unique Index: CourseName

Field Name CourseID	Type	Reqd? Yes	<u>Notes</u>
	varchar(8)		
CourseName	varchar(64)	Yes	
CourseDescription	varchar(1024)	No	
CourseActive	Boolean	Yes	default TRUE
CourseCredits	decimal(4,2)	Yes	default 0.0
CourseOffered	enum	No	allowed values:
			'Year 1 Fall'
			'Year 1 Spring'
			'Year 2 Fall'
			'Year 2 Spring'
			'Year 3 Fall'
			'Year 3 Spring'
			'Not Applicable'

Instructors

Primary Key: InstructorID

Unique Index: InstructorLastName, InstructorFirstName

<u>Field Name</u>	<u>Type</u>	Regd?	<u>Notes</u>
InstructorID	integer unsigned	Yes	auto_increment >100
InstructorLastName	varchar(40)	Yes	_
InstructorFirstName	varchar(40)	Yes	
InstructorActive	Boolean	Yes	default TRUE

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Semesters

Primary Key: Semester, CourseID, InstructorID

<u>Field Name</u>	<u>Type</u>	Reqd?	Notes/References
Semester	varchar(16)	Yes	YYYY Fall or YYYY Spring
CourseID	varchar(8)	Yes	Courses (CourseID)
InstructorID	integer unsigned	Yes	<pre>Instructors(InstructorID)</pre>

Grades

Primary Key: StudentID, CourseID, Semester

Field Name	<u>Type</u>	Reqd?	Notes/References
StudentID	integer unsigned	Yes	Students (StudentID)
Semester	varchar(16)	Yes	Semesters(Semester)
CourseID	varchar(8)	Yes	Semesters (CourseID)
InstructorID	integer unsigned	Yes	Semesters(InstructorID)
CourseCredits	decimal(4,2)	No	
Grade	enum	No	allowed values:
			1 1
			'E' (Enrolled)
			'H' (Honors)
			'P' (Pass)
			'Y' (Grade Delayed)
			'I' (Incomplete)
			'F' (Fail)
			'A' (Audit)
			'W' (Withdrawn)

VIEWS

CoursesOffered

Lookup Tables: Semesters, Courses, Instructors

Joins: Semesters.CourseID = Courses.CourseID

Semesters.InstructorID = Instructors.InstructorID

Field Name	<u>Type</u>	Reqd?	References
Semester	varchar(16)	Yes	Semesters (Semester)
CourseID	varchar(8)	Yes	Semesters (CourseID)
CourseName	varchar(64)	Yes	Courses (CourseName)
CourseActive	Boolean	Yes	Courses (CourseActive)
CourseOffered	enum	No	Courses (CourseOffered)
InstructorID	integer unsigned	Yes	Semesters(InstructorID)
InstructorLastName	varchar(40)	Yes	<pre>Instructors(InstructorLastName)</pre>
InstructorFirstName	varchar(40)	Yes	<pre>Instructors(InstructorFirstName)</pre>

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Registration

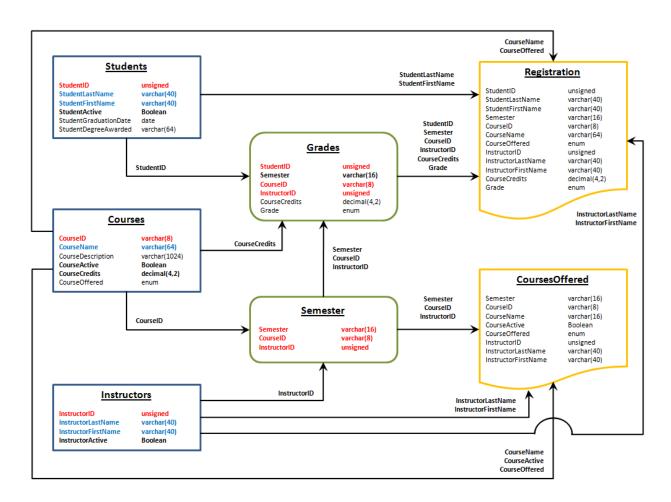
Lookup Tables: Grades, Students, Courses, Instructors
Joins: Grades.StudentID = Students.StudentID
Grades.CourseID = Courses.CourseID

Grades.InstructorID = Instructors.InstructorID

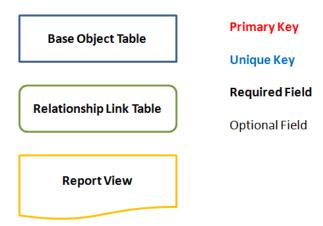
Field Name	<u>Type</u>	Reqd?	<u>References</u>
StudentID	integer unsigned	Yes	Grades (StudentID)
StudentLastName	varchar(40)	Yes	Students (StudentLastName)
StudentFirstName	varchar(40)	Yes	<pre>Students (StudentFirstName)</pre>
Semester	varchar(16)	Yes	Grades (Semester)
CourseID	varchar(8)	Yes	Grades (CourseID)
CourseName	varchar(64)	Yes	Courses (CourseName)
CourseOffered	enum	No	Courses (CourseOffered)
InstructorID	integer unsigned	Yes	Grades (InstructorID)
InstructorLastName	varchar(40)	Yes	<pre>Instructors(InstructorLastName)</pre>
InstructorFirstName	varchar(40)	Yes	<pre>Instructors(InstructorFirstName)</pre>
CourseCredits	decimal(4,2)	No	<pre>Grades (CourseCredits)</pre>
Grade	enum	No	Grades (Grade)

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DATABASE ENTITY-RELATIONSHIP DIAGRAM



LEGEND



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