JENZABAR CX

Grading

Technical Manual

JENZABAR

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JENZABAR, INC.
GRADING TECHNICAL MANUAL

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SECTION 1 – USING THIS MANUAL

Overview

Purpose of This Manual

This manual provides technical information required to install, customize, and maintain the Grading product of CX.

Intended Audience

This manual is for use by those individuals responsible for installing, customizing, and maintaining CX.

How to Use This Manual

If you are not familiar with the processes and features of the Grading product, read the manual for:

- Detailed reference information about how the product works
- Procedures for customizing and maintaining the product

If you are familiar with the processes and features of the Grading product, and just need specific reference information or a procedure, look through the table of contents or index and refer to the pages you need.

Product Differences

This manual contains information for using all features developed for the Grading product. Your institution may or may not have all the features documented in this manual.

Structure of This Manual

This manual contains both general reference information and procedures for installing, customizing, and maintaining the Grading product. The organization of the manual is as follows:

Overview information

Section 1 - Information about using this manual
Section 2 - Overview information about the product

Product reference information

Section 3 - Tables and records used in the product
Section 4 - Macros and includes
Section 5 - CX program files
Section 6 - Generate Random Numbers program (*regrnd*)
Section 7 - Grade Batch program (*grdbatch*)
Section 8 - Grade Mailer program (*grdmail*)
Section 9 - Grade Report program (*grdrpt*)
Section 10 - Grade Scanning program (*grdscan*)
Section 11 - Grading program (*grading*)
Section 12 - Mass Change Grades program (*chgrds*)
Section 13 - Registration List program (*reglist*)
Section 14 - Menus, screens, scripts, and reports

Product procedures

Section 15 - Procedures to install and customize your processes
Section 16 - Procedures to maintain the product

Error reference/Recovery procedures

Section 17 - A reference of fatal errors and recovery procedures

Reference information
Index

Related Documents and Help

The following resources also are available to assist you in installing, customizing, maintaining, and using the Grading product.

Form Entry program (*forment*)
CX System Reference Technical Manual

Form Order table (formord_table)
CX System Reference Technical Manual

QuickMate online help
QuickMate Installation Guide
Getting Started User Guide

Technical manuals
CX Implementation and Maintenance Technical Manual
CX System Reference Technical Manual

Terminology
Master Glossary

Transcript Comment record (trans_comm_rec)
Transcript Technical Manual

Transcript Form Table (transfrm_table)
Transcript Technical Manual

Transcript program (*trans*)
Transcript Technical Manual

UNIX-based help
Help command (**<Ctrl-w>**) in screens and menus

User guides
Grading User Guide
Getting Started User Guide

Web Grading
Web Technical Manual

Conventions Used in This Manual

Introduction

Jenzabar, Inc. has established a set of conventions to help you use this manual. The list of conventions presented below is not exhaustive, but it includes the more frequently used styles and terms.

Style Conventions

CX technical manuals observe the following style conventions.

Boldface type
Represents text that you type into the system (e.g., Type **UNDG**), command names (e.g., **Finish**), or keys you use to execute a command or function (e.g., **<Enter>**).

Bulleted lists
Show items not ranked or without a sequential performance.

CAUTION:
Indicates a caution or warning of a potential risk or condition.

<Enter>
Represents the Enter, Return, Line Feed, or ↵ key on your keyboard.

Italic type
Is used in any of these ways:

- To represent a new or key term
- To add emphasis to a word
- To cross-reference a section of text
- To represent a variable for which you substitute another variable (e.g., substitute *filename* with an appropriate filename)

<Key name>
Represents a key that you must press.

Note:
Indicates a note, tip, hint, or additional information.

Numbered lists
Show ranking of items or sequence of performance.

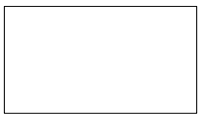
Parentheses
When used around a field name, indicate the field is unlabeled. The field description includes the location of the field.

Quotation marks
Represent information written in this guide exactly as it appears on the screen.

Example: The message, "Now Running..." appears.

Flowchart Conventions

Flowcharts representing a general overview of a particular application or process are included in this manual. Symbols are used in flowcharts as follows:

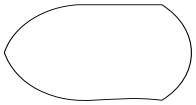


Process
Represents a processing function the system performs or the user must do.

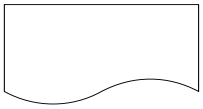
Predefined Process
Represents a subroutine or module that can be called by an application; i.e., generally programming code.

Note: Used only for exception situations. The Process symbol is the standard symbol.

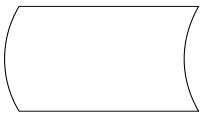
Terminator
Represents the very first or last symbol in a flowchart. Also used for references to another manual.



Display
Represents data displayed on a screen or window. Used for all menus including the master menu.

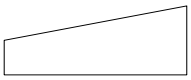


Document
Represents an output report, forms, or any readable data, either hardcopy or displayed on a screen.



Stored data
Represents data maintained in the database including tables and records.

Manual operation
Represents any process performed manually by the user.



Manual input
Represents data entered by any manual method, such as data entry, scanning, or reading bar codes.

Connector
Connects one section of the same flowchart to another. Usually, a connector contains a number where it exits a flowchart, and the same number in the connector showing re-entry.

Jenzabar CX - Specific Terms

Some terms used in this manual may be unfamiliar to you, either because they are terms you have not used before or because Jenzabar, Inc. has assigned a slightly different meaning to a familiar term. The following list identifies and explains the most common Jenzabar CX -specific terms:

Application
One or more software programs that enable you to perform a particular procedure, such as entering student information.

Data
Specific information you enter into fields on a particular data entry screen.

Enter
To type information on a keyboard and execute by any of the following actions:

- Pressing the **<Enter>** key
- Clicking on the **OK** button
- Selecting **Finish**

F key
Any of the function keys located on your keyboard (e.g., **<F1>**).

Hot key
The capitalized and underlined (or highlighted) letter of a command on a menu.

ID
The number assigned to each student or organization associated with your institution (e.g., 12345).

Parameter
A variable in the system that is given a constant value for a specific application (e.g., a date can be a parameter for producing a report).

Select
To execute a command by any of the following actions:

- Performing the keystrokes
- Pressing the hot key
- Highlighting the command or option and pressing **<Enter>**
- Clicking on the icon or button with the mouse

System
The Jenzabar, Inc. product, CX.

Keystrokes

When you see two keys separated by a dash (e.g., **<Ctrl-c>**), hold down the first key (**<Ctrl>**) while pressing the second (**<c>**).

SECTION 2 – GRADING PROCESSES

Overview

Introduction

This section provides information on the purpose and process flow of Grading.

Purpose of Product

The primary purpose of Grading is to enable an institution to enter grades of students to their Course Work records and calculate course statistics.

Background Knowledge

The following list describes the necessary background information that you should know to implement and support the Grading product.

UNIX

Know the following about the UNIX operating system:

- Csh environment and commands
- Editor commands (e.g., vi)

INFORMIX-SQL

Know about the following INFORMIX tools:

- SQL database
- PERFORM screens
- ACE reports

Jenzabar CX database tools and utilities

Know how to use the following database tools:

- MAKE processor
- Schemas
- Macros
- Includes
- Program screens and windows

Jenzabar CX

Know the following about the CX standard product:

- CX directory structure
- The menu processor
- The CX database engine
- The product update process

QuickMate features

Know the following about the CX Graphical Server:

- Client/Server processing
- Telnet settings
- Keyboard settings

- Mouse settings
- GUI mode commands

C Programming
If you want to modify any CX programs to meet unique needs at your institution, you must know how to use the C programming language and have an in-depth knowledge of the CX code.

Grading policies and procedures
Know answers to the following questions:

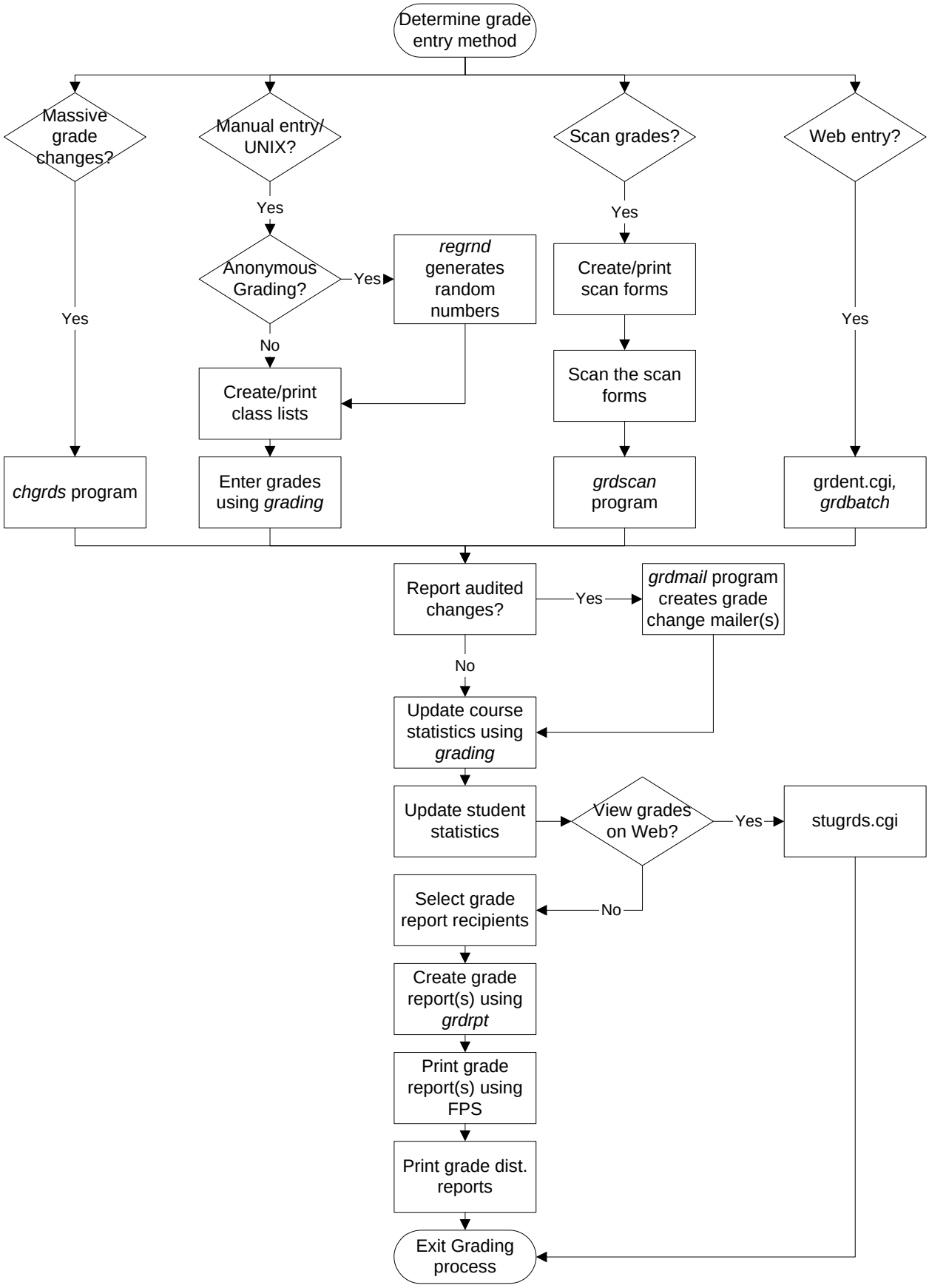
- Who is authorized to change grading information?
- Who is authorized to remove course statistics and course information from the database?

Process Flow

Diagram

The following diagram shows the process flow of the Grading product.

Note: For more information about program interrelationships and detailed data flow diagrams, see the program sections in this manual.


Determine grade entry method
Massive grade changes?
Manual entry/ UNIX?
Scan grades?
Web entry?
Yes
Yes
Yes
Yes
Anonymous Grading?
Yes
regrnd generates random numbers
No
Create/print class lists
Create/print scan forms
Scan the scan forms
chgrds program
Enter grades using grading
grdscan program
grdent.cgi, grdbatch
Report audited changes?
Yes
grdmail program creates grade change mailer(s)
No
Update course statistics using grading
Update student statistics
View grades on Web?
Yes
stugrds.cgi
No
Select grade report recipients
Create grade report(s) using grdrpt
Print grade report(s) using FPS
Print grade dist. reports
Exit Grading process

Process Description

The Grading product involves the following processes.

1. Determine your method of entering grades.
    - A massive change of grades
    - Manual entry using UNIX
    - Scanning grades
    - Web entry
2. If performing a massive change of grades, use the *chgrds* program to change one or more grades.
3. If performing manual grade entry using UNIX, determine whether to use anonymous grading.
4. If using anonymous grading, use the *regrnd* program to generate random numbers.
5. Create and/or print the class list(s) for input of course grades.
6. Enter the grades for a course using the *grading* program.
7. If you are scanning grades, create and print scan forms using third-party software, which interacts with the *grdscan* and *reglist* programs.
8. If you are scanning grades, scan the scan forms.
9. If you are scanning grades, use the *grdscan* program to process the grades.
10. If entering grades using Web Grading, use the grdent.cgi script and *grdbatch* programs.
11. If you are you reporting audited grade changes (i.e., grade changes that affect grade point averages), use the *grdmail* program to create the grade change mailer(s) used to report the grade change(s).

    Notes:

    - The Grade Audit process audits grades for changes made to certain Course Work record (cw_rec) fields.
    - The Grade Audit process saves cw_rec field changes in the Grade Audit record (grdau_rec) using the *grading*, *grdscan*, *grdbatch*, and *chgrds* programs.
12. Use the *grading* program to update course statistics.
13. Update selected student statistics on an as-needed basis during a session.
14. Update student statistics for all students before creating midterm or final grade reports.
15. If you want to view grades on the Web, use the stugrds.cgi script before exiting.
16. Select grade report recipients for whom the system creates Contact records specifying students for whom grade reports are to be created and printed.
17. Select extra grade report recipients (those other than the student), who also will receive a copy of the grade report(s).
18. Use the *grdrpt* program to create the grade report(s).
19. Print the grade report(s) onto a form using the Forms Production System.
20. Run grade distribution reports.

21. Exit the Grading process.

Application Relationships

Related Jenzabar CX Applications

The Grading product interacts with several other applications and products in CX. The following list describes the interrelationships.

Admissions
Users of the Admissions application gather initial student data that the Student Affairs/Housing product uses. Student Affairs/Housing builds upon such initial records.

Career Placement
Career Placement gathers students' credential information from records of Student Affairs/Housing.

Financial Aid
Certain types of financial aid may depend upon a student's resident status. Such information appears in Housing records.

Registrar
Users of the Registrar application can change fees that are assessed from Student Affairs/Housing data.

SECTION 3 – GRADING TABLES AND RECORDS

Overview

Introduction

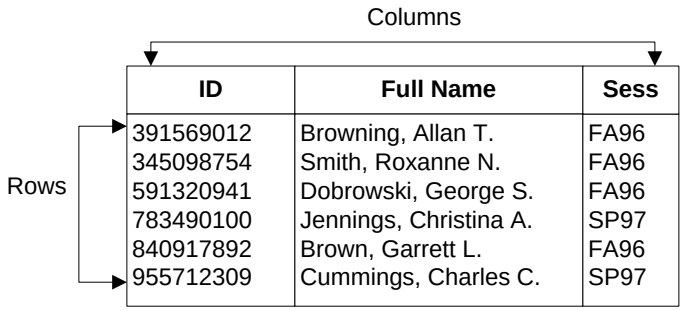
This section provides reference information about each table and record associated with the Grading product. It also provides definitions of SQL and CX table and record terminology and differentiates among common, shared, and product-specific tables and records.

Alphabetical Organization

The tables and records appear in alphabetical order in this section.

What Is an SQL Table?

In a relational SQL database, a table is an organized set of any kind of data, regardless of its purpose for validation or information maintenance. The basic unit of organization of a table is a column, that is, a category of data. A table can have multiple columns and multiple rows of data.



ID	Full Name	Sess
391569012	Browning, Allan T.	FA96
345098754	Smith, Roxanne N.	FA96
591320941	Dobrowski, George S.	FA96
783490100	Jennings, Christina A.	SP97
840917892	Brown, Garrett L.	FA96
955712309	Cummings, Charles C.	SP97

What Is a Jenzabar CX Table?

A *table* in CX contains information that remains static and is denoted with the *_table* extension. For example, the State table, named *st_table,* contains the list of the states in the United States of America. On the CX menu, you can access most tables in Table Maintenance menus.

What Is a Jenzabar CX Record?

A *record* in CX is a table containing information that changes on a regular basis and is denoted with the *_rec* extension. For example, the Alternate Address record, named *aa_rec*, contains any other addresses where students can be contacted, such as a summer address. You access records in CX program screens and windows, detail windows, and PERFORM screens. SQL makes no distinction between tables and records; all sets of data are tables.

Summary List of Tables and Records Used

Introduction

Tables and records used in Grading can be divided into the following categories:

- Common
- Shared
- Product-specific

Among these categories, some tables and records are required, while others are optional.

Impact of Changes to Tables and Records

If you make changes to schemas for any tables or records, you must reinstall each associated product or module.

Common Tables and Records

Modules in the Grading product use several tables and records that are common throughout CX. These tables and records are:

Note: For additional information about these common tables and records see the *CX System Reference Technical Manual* unless otherwise noted.

- ADR Runcode table (adr_table)
- Alternate Address record (aa_rec)
- Alternate Address table (aa_table)
- Accomplishment record (accomp_rec)
- Accomplishment table (accomp_table)
- Addressee record (addree_rec)
- Contact record (ctc_rec) (See *Communications Management Technical Manual*)
- Contact table (ctc_table)
- Degree table (deg_table)
- Education record (ed_rec)
- Examination record (exam_rec)
- Exam table (exam_table)
- Faculty record (fac_rec)
- Hold Action table (hold_act_table)
- Hold table (hold_table)
- ID record (id_rec)
- Profile record (profile_rec)
- School record (sch_rec)
- Title table (title_table)

Shared Tables and Records

Some tables and records used in Grading originate, or are more frequently used, within other CX product areas. These tables and records, and their originating product areas, are:

Note: For additional information, see the technical manual for the primary product area. If multiple products are shown, the primary product is listed first.

- Academic Calendar record (acad_cal_rec)
  - Course/Class Schedule
  - Financial Aid
  - Registration
- Academic record (stu_acad_rec)
  - Registration
- Academic Status table (acad_stat_table)
  - Registration
- Block Transfer record (blktw_rec)
  - Transcript
- Classification table (cl_table)
  - Registration
- Counting table (cntg_table)
  - Course/Class Schedule
- Course Catalog table (cat_table)
  - Course/Class Schedule
- Course record (crs_rec)
  - Course/Class Schedule
  - Degree Audit
  - Recruiting/Admissions
- Course Work record (cw_rec)
  - Course/Class Schedule
  - Degree Audit
  - Registration
- Instructor record (instr_rec)
  - Course/Class Schedule
- Meeting record (mtg_rec)
  - Course/Class Schedule
- Noncatalog record (non_cat_rec)
  - Degree Audit
- Operator Department table (oprdept_table)

  - Course/Class Schedule
- Program Enrollment record (prog_enr_rec)
  - Recruiting/Admissions
  - Financial Aid
  - Registration
  - Student Services
- Program table (prog_table)
  - All products
- Registration record (reg_rec)
  - Registration
- Repeat table (rep_table)
  - Course/Class Schedule
  - Registration
- Section Meeting record (secmtg_rec)
  - Course/Class Schedule
- Section record (sec_rec)
  - Course/Class Schedule
- Session table (sess_table)
  - Course/Class Schedule
- Student Services record (stu_serv_rec)
  - Student Services
  - Student Billing
  - Registration
  - Financial Aid
- Student Statistics record (stu_stat_rec)
  - Transcript
  - Registration
  - Student Services
- Subprogram table (subprog_table)
  - All products
- Transcript Comment record (trans_comm_rec)
  - Transcript

Grading Tables and Records

Programs in the Grading product use the following Grading tables and records. File information about these tables and records is in this section.

- Class Scan record (classscan_rec)
- Course Statistics record (cs_rec)
- Grade Audit record (grdau_rec)
- Grade Message record (grdmsg_rec)
- Grade Message table (grdmsg_table)
- Grade Scan table (scangrd_table)
- Grade Temp record (grdtmp_rec)
- Grading Requirements table (grdgreq_table)
- Student Scan record (stuscan_rec)

Required Tables and Records

The following tables and records are required to run the features of the Grading product:

- acad_cal_rec
- cntg_table
- crs_rec
- cw_rec
- grd_table
- id_rec
- mtg_rec
- oprdept_table
- prog_enr_rec
- rep_table
- sec_rec
- secmtg_rec
- stu_acad_rec
- stu_stat_rec
- trans_comm_rec (for Grade Audit)

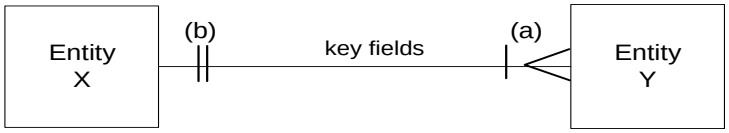
Table and Record Relationships

Key to Entity Relationship Diagrams

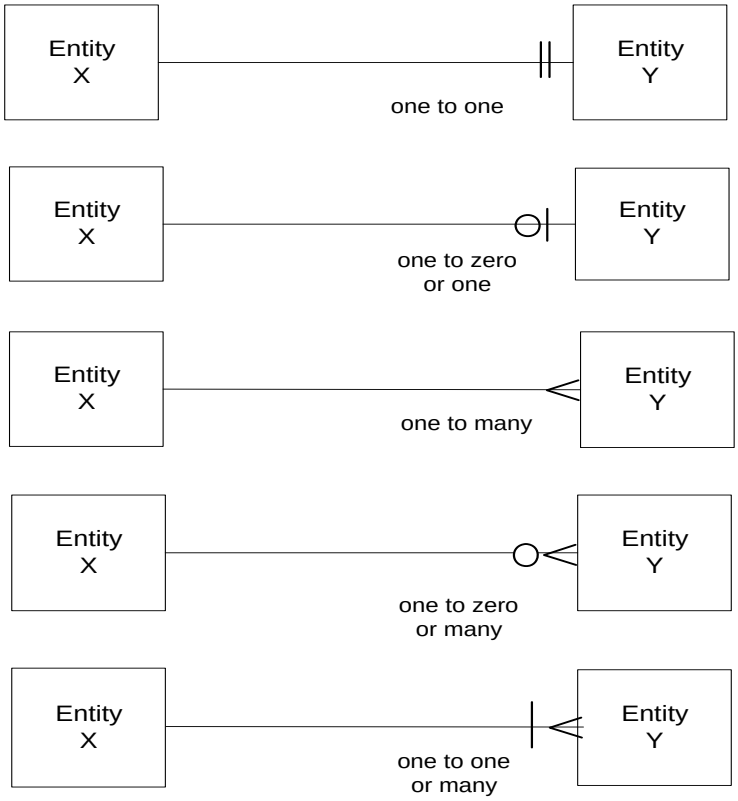
This diagram provides a key to interpreting the entity relationships in these diagrams.

Interpret the diagrams as follows:

- Entity X has a one to (a) one or many relationship to Entity Y.
- Entity Y has a one to (b) one relationship to Entity X.

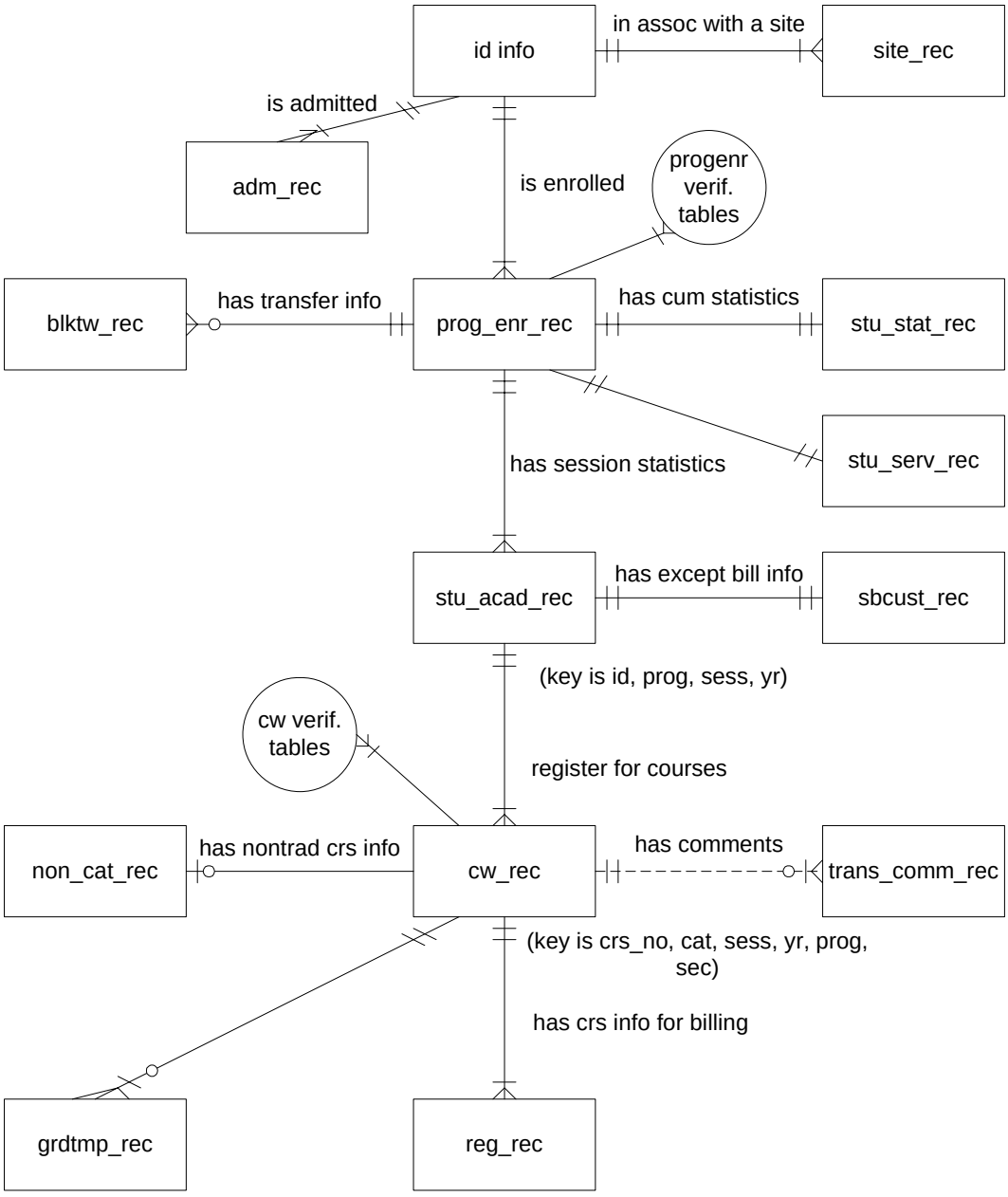


Relationship symbols and their meanings:

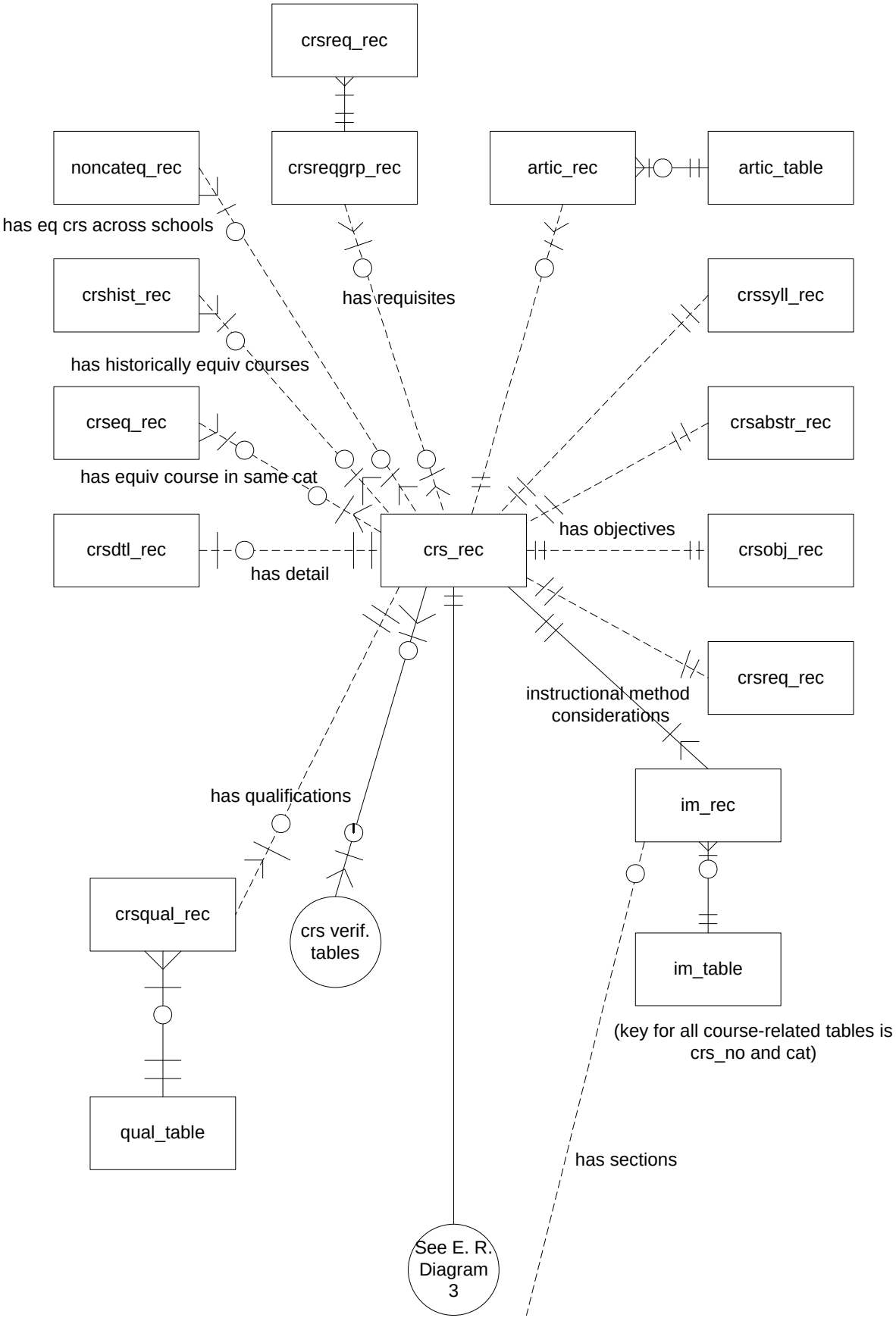


Entity Relationship Diagram 1

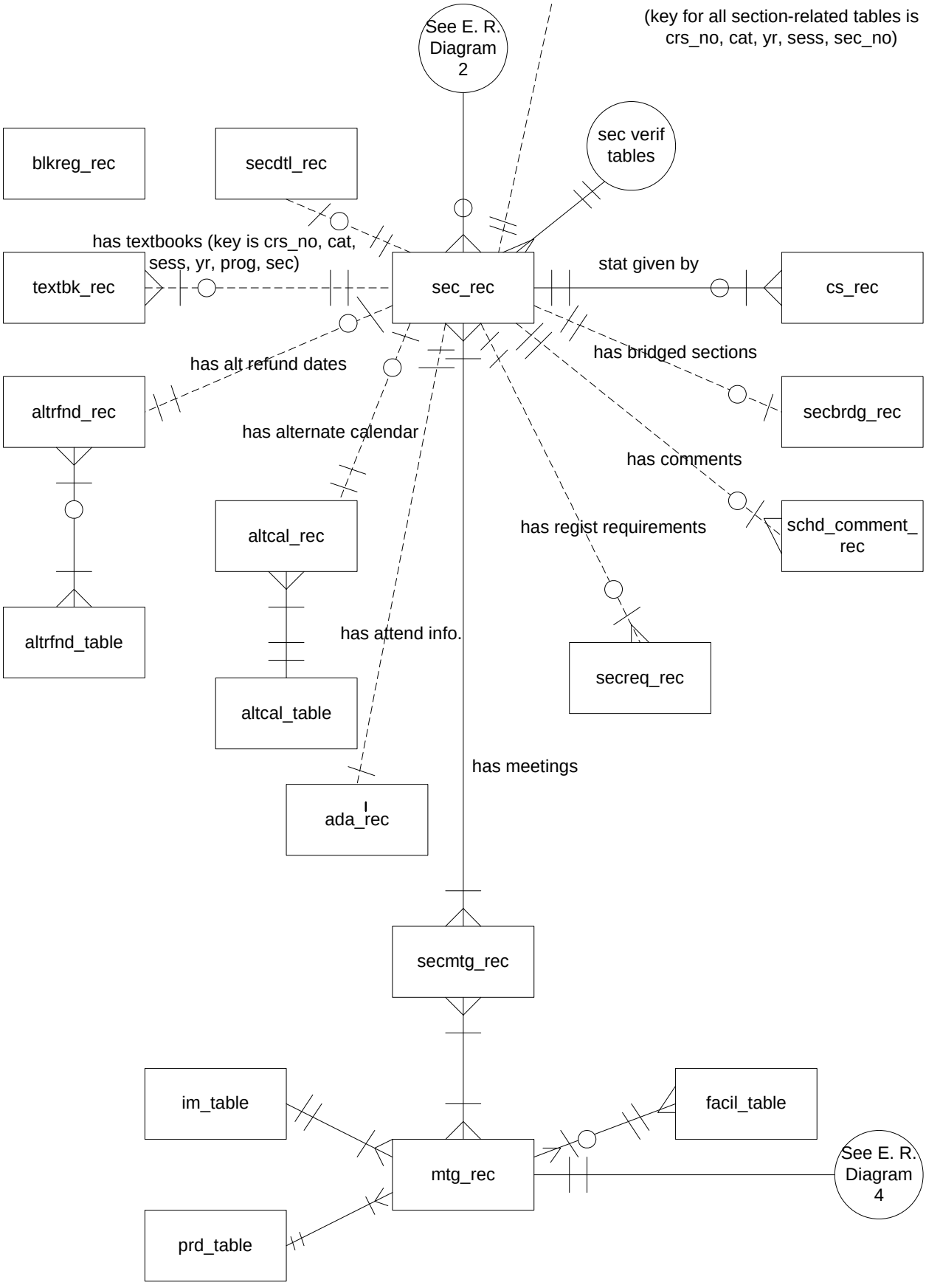
The following diagrams show the relationship between the tables and records the Grading product uses.



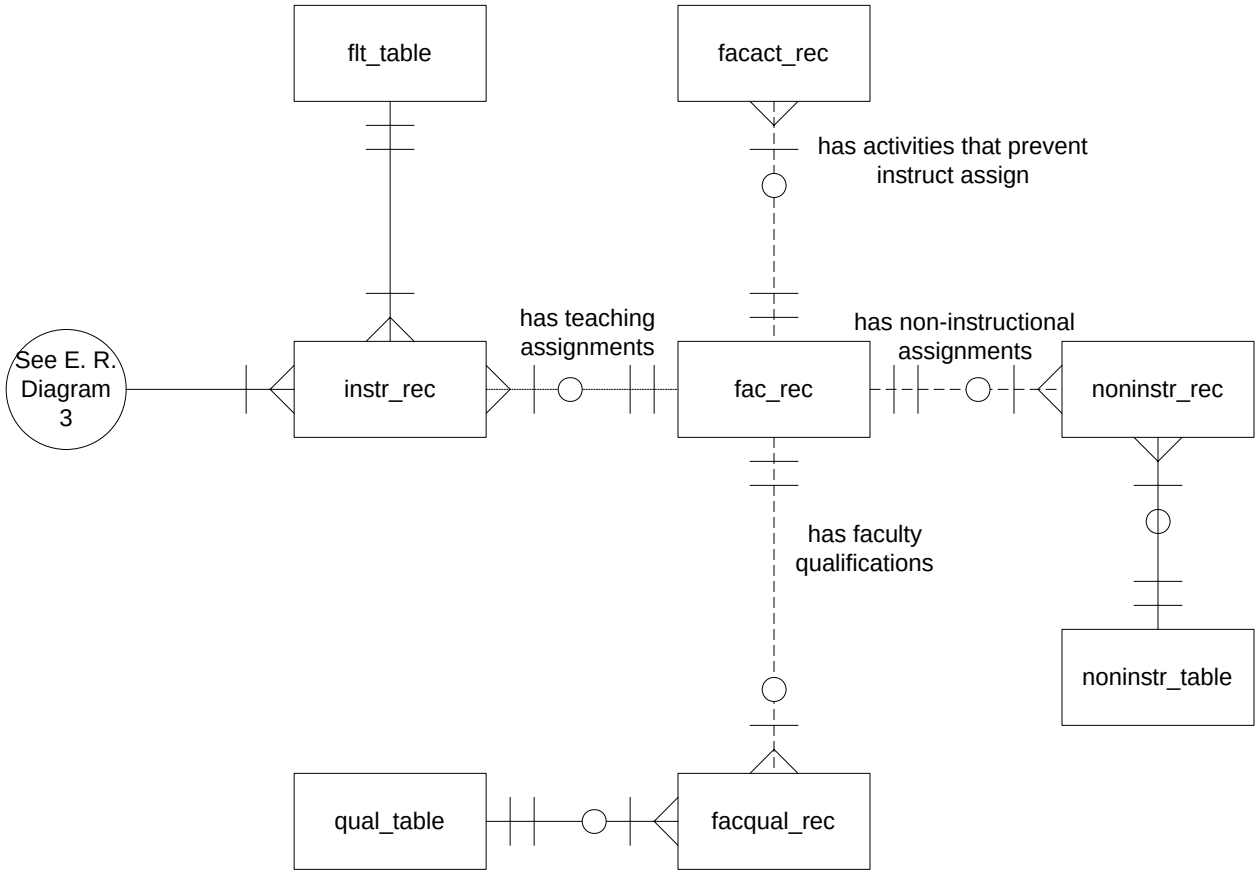
Entity Relationship Diagram 2


crsreq_rec
noncateq_rec
crsreqgrp_rec
artic_rec
artic_table
has eq crs across schools
has requisites
crshist_rec
crssyll_rec
has historically equiv courses
crseq_rec
crsabstr_rec
has equiv course in same cat
crsdtl_rec
crs_rec
has objectives
crsobj_rec
has detail
crsreq_rec
instructional method considerations
has qualifications
im_rec
crsqual_rec
crs verif. tables
im_table
(key for all course-related tables is crs_no and cat)
qual_table
has sections
See E. R. Diagram 3

Entity Relationship Diagram 3


See E. R. Diagram 2
(key for all section-related tables is crs_no, cat, yr, sess, sec_no)
blkreg_rec
secdtl_rec
sec verif tables
has textbooks (key is crs_no, cat, sess, yr, prog, sec)
textbk_rec
sec_rec
stat given by
cs_rec
has alt refund dates
has bridged sections
altrfnd_rec
secbrdg_rec
has alternate calendar
has comments
altcal_rec
schd_comment_rec
has regist requirements
altrfnd_table
has attend info.
secreq_rec
altcal_table
has meetings
ada_rec
secmtg_rec
im_table
facil_table
mtg_rec
See E. R. Diagram 4
prd_table

Entity Relationship Diagram 4



Schemas

Introduction

Schema files define the structure of database files and associated fields in the CX data dictionary. You can access schema files associated with the Grading product in the following directory path: $CARSPATH/schema/student.

File Naming Conventions

CX makes distinctions in the naming of schemas. For schema files containing definitions of CX tables, the UNIX filename begins with the letter *t* followed by characters describing the English name of the table (e.g., *tst* for the State table). For schema files containing definitions of CX records, the UNIX filename describes the English name of the record (e.g., *id* for the ID record).

The first line in a schema file, after revision information, specifies the INFORMIX database table that the schema defines. For example, *st_table* (State table) is specified in the *tst* schema file.

Field Descriptions

Schema files contain descriptions of each field defined in a table or record. You can view descriptions of fields in Grading tables and records by accessing the schema files.

Schema File Reports

Introduction

The standard CX product includes three reports that provide information about the tables and records used in each product area. When table implementation begins, you can run the reports to provide the installation team with the most current information about the tables and records, and the columns in each.

Report Locations

Access the reports from the System Management: Data Dictionary menu.

Report Descriptions

The following three reports provide information that is useful during the table setup phase of implementation:

Database Fields for the Jenzabar CX Database Dictionary

Report filename: *dbefield*

Menu option: Fields by File Report

Description: This report lists each column in the specified range of files (e.g., id_rec to profile_rec), including its name, short and long descriptions, field type, and size.

Database Files for the Jenzabar CX Database Dictionary

Report filename: *dbefile*

Menu option: Fields by Track Report

Description: This report lists each table that relates to the specified range of product areas (e.g., A for Admissions to F for Financial), including the table name, description, and purpose.

Database Files/Fields for the Jenzabar CX Database Dictionary by Track

Report filename: *dbetrack*

Menu option: File/Field by Track Report

Description: This report combines the contents of *dbefield* and *dbefile*, displaying the tables for the specified product areas (e.g., A for Admissions to F for Financial) and the columns in each table.

Tables and Records

Table and Record Information

The following list identifies the tables and records that originate from the Grading product. The list includes the filenames, location, purpose, and association of each table and record with programs, products, and other tables and records.

Note: The *Program interrelationships* in the list are included in the Grading product. The *Product interrelationships* in the list are not included in the Grading product.

Class Scan record
Contains information for interpreting scanned class information.

UNIX filename: classscan

Informix filename: classscan_rec

Schema location: $CARSPATH/schema/student

Program interrelationships: grdscan, reglist

Product interrelationships: Registration

Table/record interrelationships: Associated with a student's Student Scan record (stuscan)

Counting table
Contains valid course counting codes and their grade counting factors.

UNIX filename: tcntg

Informix filename: cntg_table

Schema location: $CARSPATH/schema/student

Program interrelationships: crsent, regist, trans

Product interrelationships: Degree Audit, Grading, Registration

Table/record interrelationships: Associated with the Course record (crs_rec) and Coursework record (cw_rec)

Course Statistics record
Contains the statistics of each course a school offers including previous courses.

Note: The Calculate and Update commands on the Grade Entry screen enable you to create the Course Statistics record. Use either of these commands to create the Course Statistics record. After someone enters grades, the Calculate command provides the option to update all courses, a single course, or courses for a specified degree group. Also, the *grdbatch* program includes a parameter that will update grade statistics.

UNIX filename: cs

Informix filename: cs_rec

Schema location: $CARSPATH/schema/student

Program interrelationships: grading

Product interrelationships: None

Table/record interrelationships: Associated with a student's Academic record (stu_acad_rec)

Grade Audit record
Tracks changes anyone makes to a student's grades. An include enables or disables use of this record.

UNIX filename: grdau

Informix filename: grdau_rec

Schema location: $CARSPATH/schema/student

Program interrelationships: grading, grdbatch, grdmail, grdscan, regent, trans

Product interrelationships: None

Table/record interrelationships: Associated with a student's Transcript Comment record and Course Work record

Grade Message record
Contains messages associated with students that may be included on a grade report.

UNIX filename: grdmsg

Informix filename: grdmsg_rec

Schema location: $CARSPATH/schema/student

Program interrelationships: grdrpt

Product interrelationships: None

Table/record interrelationships: Associated with the Grade Message table

Grade Message table
Contains messages that may be printed on grade reports.

UNIX filename: tgrdmsg

Informix filename: grdmsg_table

Schema location: $CARSPATH/schema/student

Program interrelationships: grdrpt

Product interrelationships: None

Table/record interrelationships: Associated with the Grade Message record

Grade Scan table
Contains valid scan codes and each associated grade value.

UNIX filename: tscangrd

Informix filename: scangrd_table

Schema location: $CARSPATH/schema/student

Program interrelationships: grading, grdscan

Product interrelationships: None

Table/record interrelationships: During initial creation, both the Grade table and the Grading table affect the Grade Scan table.

Grade table
Contains all valid grades awarded by an institution.

Note: The prereq_grd_chk field of the Grade table controls whether a student can register for a course before completing its prerequisite course.

UNIX filename: tgrd

Informix filename: grd_table

Schema location: $CARSPATH/schema/student

Program interrelationships: grading, grdbatch, grdscan, trans

Product interrelationships: Transcript

Table/record interrelationships: None

Grade Temp record
Contains entered grades stored temporarily for a course used in Web Grading.

UNIX filename: grdtmp

Informix filename: grdtmp_rec

Schema location: $CARSPATH/schema/student

Program interrelationships: grdbatch

Product interrelationships: Grading

Table/record interrelationships: Associated with the Course Work record and Grade table

Grading table
Contains all the valid types of grading approved by an institution.

Note: CX uses this table in combination with the Counting table and the Repeat table to determine how to calculate course hours attempted, earned, passed, and quality points.

UNIX filename: tgrdg

Informix filename: grdg_table

Schema location: $CARSPATH/schema/student

Program interrelationships: crsent, grading, regent, trans

Product interrelationships: Course/Class Schedule, Transcript

Table/record interrelationships: The Grading table affects the Grade table

Grading Requirements table
Contains requirements associated with grading types.

UNIX filename: tgrdgreq

Informix filename: grdgreq_table

Schema location: $CARSPATH/schema/student

Program interrelationships: grading, regent, trans

Product interrelationships: None

Table/record interrelationships: Associated with the Grade table

Student Scan record
Contains information for interpreting student information from a scan list.

UNIX filename: stuscan

Informix filename: stuscan_rec

Schema location: $CARSPATH/schema/student

Program interrelationships: grdscan, reglist

Product interrelationships: Registration

Table/record interrelationships: Associated with the Class Scan record

SECTION 4 – GRADING MACROS AND INCLUDES

Overview

Introduction

This section provides reference information about macros and includes used to set up the Grading product.

Relationship Among Macros, Includes, and C Programs

For all elements of the product other than C programs, m4 macros contain the definitions of features that have been designed to be modified for each institution. These macros, located under $CARSPATH/macros, are passed through the m4 processor.

CX contains an alternative method for the setting of features in C programs. Macros in the source code of C programs are not passed through the m4 processor because the C compiler has its own preprocessor, the cc.

To provide the same apparent functionality to C programs, a section in the include source directory has been allocated for a type of include file that acts as an intermediary between the m4 processor and the cc preprocessor. In operation, m4 macros are defined whose output is a valid cc macro. These m4 macros are placed in the include files. Then the include files are translated and the appropriate cc macro is placed in the include file. The C compiler includes the installed include file during compilation so that the m4 macro influences the result of the compilation.

General Installation Procedures

See the *CX Implementation and Maintenance Technical Manual,* for general procedures on setting and installing changes to macros and includes.

Configuration Table

The Configuration table (config_table) also is used to provide configuration information for some programs.

Macros

Introduction

CX contains macros that define specific values used throughout the Grading product. The macros and includes enable you to change the available options and functionality of the Grading product without having to modify C code. By modifying macros, you can customize your implementation of the Grading product and make the product easier to maintain.

Definition and Function

A macro is an instruction that causes the execution of a pre-defined sequence of instructions in the same source language. A macro consists of uppercase letters and underscores, and is used in place of a text string within source files. CX expands the macro to the longer text during the installation process for a file. CX uses the following kinds of macros:

- Enable - Allows you to enable a feature of CX
- DBS_COMMON - Allows you to define database values in screens
- Periodic - Allows you to make changes on a periodic basis

Macros can perform one of the following functions:

- Define defaults on a screen (_DEF)
- Define valid values in a field (_VALID or _INCL)
- Enable system modules (ENABLE_MOD)
- Enable system features (ENABLE_FEAT)
- Establish a valid value for an include

How to Locate Macros

To locate Grading macros, access the $CARSPATH/macros/custom/student file. To locate common macros, access the $CARSPATH/macros/custom/common file.

Applocate Program

You also can locate macros using the *Applocate* program. *Applocate* checks the descriptions of macro files for the product you specify and lists each file that it locates in a separate file in your home directory.

Note: To locate the macros used in Grading, using *Applocate*, you must specify the product name.

Follow these steps to run the *Applocate* program.

1. Select Utility Menu from the CX menu. The Utilities: Main menu appears.
2. Select File Options. The Utilities: File Options menu appears.
3. Select Locate Macro Values. The Locate Macro Values screen appears.
4. Select **Table Lookup** in the Macro Category field. A list of module names appears in a Table Lookup box.
5. Select a module name (e.g., GRADING), and click **OK**. The Table Lookup box disappears.
6. Select **Finish**. The Output Parameters and Scheduling window appears.
7. Enter the following:

- In the Time field, enter **NOW**.
- In the Background field, enter **Y**.

8. Select **Finish**.

The system creates the file, *applocate.out*, and sends it to your home directory.

Enable Macros

The following lists the Grading enable macros located in the *student* macro file.

'RANDOM_STUAC', 'Y'
Defines whether the random number is to be stored in the stu_acad_rec on a session basis. The numbers may not be unique between sessions. If the random number is stored in the prog_enr_rec on a student basis, set the Random_Stuac value to N.

'RANDOM_UNIQUE', 'Y'
Defines whether the random numbers stored in either the stu_acad_rec or the prog_enr_rec should be unique across programs. If Random_Unique is Y, all students, regardless of their program, will have unique random numbers. If Random_Unique is N, a student in one program can have the same number as a student in a different program.

'RANDOM_MINIMUM', '1000'
Defines the random minimum value of the lowest allowable random number for anonymous grading. The macro's default value is 1000.

'RANDOM_MAXIMUM', '9999'
Defines the random maximum value of the highest allowable random number for anonymous grading. The macro's default value is 9999.

'ENABLE_FEAT_ANON_GRDG', 'Y'
Defines whether anonymous grading is enabled. The macro's default setting, Y, specifies that the Anonymous Grading menu option appears on the Student Management: Registrar Main menu.

> **Note:** Determine whether the registrar plans to use anonymous grading. Professional schools, especially law schools, frequently use this feature.

'ENABLE_FEAT_CRS_STATS', 'Y'
Defines whether the course statistics feature is enabled. The macro's default setting, Y, specifies that the Remove Course Statistics and Display Course Statistics menu options appear on the Registrar: Grading menu. It also specifies that the subdirectory for reports based on course statistics appears.

> **Note:** Normally, this macro is enabled because the registrar will want to account for course statistics. While you can compute course statistics without enabling this macro, the two menu options in Grading pertaining to course statistics are removed and the subdirectory for reports that are based on course statistics also are removed ($CARSPATH/menusrc/student/regist/regrpts/menudesc).

'ENABLE_FEAT_GRDAU', 'Y'
Defines whether Grade Audit is enabled to display the Grade Auditing menu. If the option is defined as Y, the system will audit all grade changes. When defining this macro as Y, the grade audit macros in this file also will need updating. After this file has been installed, the following will need to be reinstalled:

- macros/user/inc
- include/applic/libreg
- include/applic/regent

A make reinstall F=ALL will need to be done in the following directories:

- modules/regist
- menuopt/regist

A make subs T=reinstall will need to be done in the following directory:

- menusrc/student/regist

A make reinstall must be done in the following directory:

- src/Libapp/Libreg

A make reinstall F=ALL must be done in the following directory:

- src/regist

'ENABLE_FEAT_GRDMAIL', 'Y'
Defines whether grade changes will be sent using the Grade Mailer program (*grdmail*). This macro is valid only when using Grade Audit.

'GRDAU_MAIL_SORT', 'NAME'
Defines whether the *grdmail* program sorts grade change mailers by the student's name or by the student's ID. The default is by name. This macro is used only in the menuopt that accesses the *grdmail* program.

Note: Valid values for this macro are NAME and ID.

'GRDAU_MAIL_TRANSFER', 'TRANSFER'
Defines the text to appear in the Course field on the grade change mailers when the *grdmail* program processes a transfer course.

Note: The GRDAU_MAIL_TRANSFER and GRDAU_MAIL_NONCAT macros contain the texts that can appear in the Course field on grade change mailers when the *grdmail* program processes transfer or noncatalog courses for a student. Jenzabar, Inc. designed the macros to avoid confusion when transfer and noncatalog course names are listed on students' grade change mailers.

'GRD_MAIL_NONCAT', 'NON-CAT'
Defines what text should appear on grade change mailers when a course with grade-related changes is a transfer, noncatalog course. These texts will appear according to the cw_stat field value:

- T for Transfer
- N for Noncatalog

'ENABLE_FEAT_SCANNING', 'Y'
Defines whether the Scanning Menu option will appear on the Registrar: Grading menu.

`INCL_TRANSLATE_GRADE', `Y'
Defines whether the grade translation feature is used. If defined as Y, both the rawgrade and translated grade will appear on the grading entry screen. If defined as N, only rawgrd appears since the grade and rawgrade always will be the same. See ALLOW_TYPE_UPD in include/custom/trans for more detail on how grade translation works.

CAUTION: If ALLOW_TYPE_UPD is Y, this macro also should be Y.

'GRADE_NONE', 'N'

'GRADE_FINAL', 'F'

'GRADE_MIDSESS', 'M'
Define grade statuses as kept in the stu_acad_rec.

'DEFAULT_GRADE_NR', 'NR'

'DEFAULT_GRADE', 'IP'
Define default grades for class lists.

'GRADE_PT_FORMAT', '#,###'

'GRADE_PT_INCL', 'include=(0.0:4.000)'
Define the grade point include and format for the tgrd (Grade Table report) screen.

Note: Updating normally is not required unless the client has a different grading policy from the 4.000 method. The value should be consistent with the highest points in the grd_table.

CAUTION: If you redefine this macro to use a format less than five digits, i.e., #.## versus the #.### of the standard product, the screen under $CARSPATH/modules/regist/screens/tgrd must be updated to a corresponding length.

'GRDRPT_DEF', 'final'

'GRDRPT_VALID', 'midsess,final'

'GRDRPT_INCL', 'include=(GRDRPT_VALID), dwshift)'
Define form files for the Grade Report program (*grdrpt*).

Notes:

- The formtype and the UNIX form filename must be the same.
- Normally no updating is required. The client may want to add or delete formtypes. Midterm grades are becoming rare and, even if they are used, the client may use some unconventional scheme.

Example: All freshmen students get one or more grades of D or lower. When this occurs, the Jenzabar coordinator typically will have to advise the client to create a new informer to select the unique students desired and then add the contacts for the selected students. In these unique cases, all registered courses will appear on the grade report regardless of the input of a midterm grade. Since you can add comment lines to the grade report, the registrar can explain the report in this manner.

'GRDG_DEF', 'LT'

'CNTG_DEF', 'E'
Define grading flag default values.

Note: Update these grading flag default values as necessary. Ensure their consistency with the appropriate tables, i.e., grdg_table and cntg_table.

`WEB_INCLUDE_GRDG_TYPE', `Y'
Defines whether the grading type column used in Web Grading appears on the student listing. Normally, if this is set to Y, the value of the include ALLOW_TYPE_UPD in include/custom/grading should be set to N.

`WEB_GRADING_EMAIL_CONFIRM_ID', 0

Tells the script who in the registrar's office should get confirmation e-mail on all courses processed in Web Grading. This is the identification number of the person (id_rec.id), not their e-mail address.

CAUTION: This value must be a numeric value.

`WEB_GRADING_UPD_STUSTATS', `Y'
Indicates to the perl script used in Web Grading to update student statistics when a course is submitted. Setting this to Y calls *grdbatch* with the –U option.

`WEB_GRADING_UPD_CRS_STATS', `Y'
Indicates to the perl script used in Web Grading to update course statistics when a course is submitted. Setting this to Y calls *grdbatch* with the –u option.

'SCAN_TYPE_FINAL_GRADE', 'FG'

'SCAN_TYPE_MID_GRADE', 'MG'

'PRESLUG', '\374\0100'

'SETUP_STR', ''

'RESET_STR', ''

'HZSETUP_STR', ''
Define the preslug string, which is the character string to be used to preslug scan forms. The setup and reset strings are used to aid in setting up the printer in any special manner that may be required. The hzsetup string is specific only to setup of laser printers.

'SCAN_REC_HEADER_FLG', 'Y'

'SCAN_REC_HEADER_LEN', '40'

'SCAN_REC_FORM_ID_FLD_OFFSET', '40'

'SCAN_REC_FORM_ID_FLD_LEN', '13'

'SCAN_REC_GRADES_FLD_OFFSET', `53'

`SCAN_REC_GRADES_FLD_LEN', `50'
Define various values for the *grdscan* program.

`END_OF_SCAN_COM', ` NO MARKS BELOW LINE **'**
Defines the comment that appears in the name field on the scan form after there are no more student grades to process.

`SCAN_STAFF_COM', `STAFF'
Defines the comment that appears in the faculty name field on the scan form when the faculty name is blank or no faculty name has been assigned.

`GRDSCAN_VALID', `SCAN_TYPE_FINAL_GRADE,SCAN_TYPE_MID_GRADE'

`GRDSCAN_INCL', `include=(GRDSCAN_VALID),upshift'
Define valid scan types menu options use when calling the *grdscan* program.

The following lists the Grade Audit enable macros located in the *student* macro file.

`GRDAU_COUNTING_OFCL', `Y'
Defines whether the Counting code changes result in official transcript comments.

`GRDAU_COUNTING_GRDMAIL', `Y'
Defines whether Counting code change comments appear on grade change mailers.

`GRDAU_COUNTING_TEXT', `Counting changed from GRDAU_OLD_CNTG to GRDAU_NEW_CNTG on GRDAU_DATE.'

Defines the text for Counting code changes.

`GRDAU_GRADE_OFCL', `Y'
Defines whether the Grade code changes result in official transcript comments.

`GRDAU_GRADE_GRDMAIL', `Y'
Defines whether Grade code change comments appear on grade change mailers.

`GRDAU_GRADE_TEXT', `Grade changed from GRDAU_OLD_GRD to GRDAU_NEW_GRD on GRDAU_DATE.'
Defines the text for Grade code changes.

`GRDAU_GRADING_OFCL', `Y'
Defines whether the Grading Type code changes result in official transcript comments.

`GRDAU_GRADING_GRDMAIL', `Y'
Defines whether Grading Type code change comments appear on grade change mailers.

`GRDAU_GRADING_TEXT', `Grading Type changed from GRDAU_OLD_GRDG to GRD AU_NEW_GRDG on GRDAU_DATE.'
Defines the text for Grading Type code changes.

`GRDAU_HOURS_OFCL', `Y'
Defines whether the Course Hours value changes result in official transcript comments.

`GRDAU_HOURS_GRDMAIL', `Y'
Defines whether Course Hours change comments appear on grade change mailers.

`GRDAU_HOURS_TEXT', `Hours changed from GRDAU_OLD_HRS to GRDAU_NEW_HRS on GRDAU_DATE.'
Defines the text for Course Hours value changes.

Periodic Macros

Grading has no periodic macros located in the *periodic* macro file.

Includes

Introduction

The Grading product contains includes, which determine the features that are enabled in the product. An include can be either a compile option that enables or disables a feature, or a default value for a feature.

To enable a feature in the Grading product, you must define an include in $CARSPATH/include/custom. To disable an include, comment out the include in the same file. See the *CX System Reference Technical Manual,* for more information on enabling and disabling includes. By modifying includes, you can customize your implementation of the Grading product and make the product easier to maintain.

Purpose

An include allows you to activate or deactivate features in C programs without changing the C code. You also can specify compilation values for an entry program in the Grading product.

Macro Dependency

Includes may have a dependency on macros. Normally, you do not directly modify includes for the product. You must modify a corresponding macro value and then reinstall the include.

How to Locate Includes

To locate a Grading include, access the $CARSPATH/include/custom directory.

Note: For more information about using the MAKE processor and modifying includes, see the *CX System Reference Technical Manual.*

Associated Includes

Use the file descriptions of the Grading includes in the following list to determine whether modifications are required.

grading
Contains includes that affect the *grading* product.

- SUMGRADES
- ALLOW_HRS_UPDATE
- ALLOW_GRDG_UPDATE
- ALLOW_METH_UPDATE
- ALLOW_CNTG_UPDATE
- ALLOW_ALL_CMD
- ALLOW_EXTRA_UPDATE
- ISGRAD
- NOTGRAD
- NOT_GRADED
- NO_GRADE_GIVEN
- AUTO_GRD_UPD

- USE_EARNED_HRS
- USE_RES_HRS
- EXCLUDE_PROG_ALT_GRD
- ALLOW_TYPE_UPD
- SKIP_NOT_GRADED

- GRDMAIL_USE_DCSD
- GRDMAIL_USE_INCRRCT

- GRDRPT_USE_DCSD
- GRDRPT_USE_INCRRCT

SECTION 5 – JENZABAR CX PROGRAM FILES

Overview

Introduction

This section provides reference information about the files that relate to most CX programs. By understanding the file structure and the contents of the files, you can locate most of the information you need about any program.

Program Files Detailed

This section contains details about the following files:

Note: All other files for each CX program are standard C programming files with standard components and structure.

def.c
The def.c file contains the declaration of external variables (including structures) that must be available to all source files in the program. These variables also can be initialized in this file. As with other C source files, the files also contain comments. The **makedec** command uses the def.c file to create the dec.h file.

mac.h
The mac.h file contains preprocessor include and define statements, typedef statements, and structure template definition statements. The file also contains macro substitution defines and declarations of structures. This file is included in all source files during compilation through use of the dec.h file.

Definition File

Every program uses a definition (def.c) file, located in the following paths:

- $CARSPATH/src/common/forment
- $CARSPATH/src/regist/chgrds
- $CARSPATH/src/regist/grading
- $CARSPATH/src/regist/grdbatch
- $CARSPATH/src/regist/grdmail
- $CARSPATH/src/regist/grdrpt
- $CARSPATH/src/regist/grdscan
- $CARSPATH/src/regist/reglist
- $CARSPATH/src/regist/regrnd

The *def.c* file for a screen-oriented program can contain the following information:

- Includes for a mac.h file
- Declaration of global variables and structures used throughout the program
- Structure and non-structure screen binds (i.e., program buffer to screen buffer binds)
- Ring menu definitions
- Prompt line information
- Program parameters

- Declarations of dynamic memory (dmms, dmls, and dmlts) in relation to functionality within libdmm (the dynamic memory management package)
- Screen pointers

The def.c file for a non-screen-oriented program can contain the following information:

- Includes for a mac.h file
- Global program variables
- Includes for schema files def.c files
- Form pointers that provide the location for forms
- Sqlda pointers that bind the file structure to the form
- dmm, dml, and dmlt definitions
- Program parameters
- Declarations of functions so the compiler can handle a call of that function

Example of a def.c File

The following is an edited excerpt from the def.c file for the Grading program (*grading*). It illustrates the common components of a standard CX def.c file.

Note: The legend for the file contents directly follows this example.

```
#include "mac.h"

#include <schema/student/tgrdgdef.c>
#include <schema/student/tcntgdef.c>
#include <schema/student/tgrddef.c>

char                    grdstat;                /* Grade status for stuac_rec */
char                    sessgrd[2];             /* Midsess or Final grades */
char                    findstat[2];            /* CW selection code */

/* -----
        Set up for options in Update mode
----- */
SCR_MENUSTART(upd_list)
SCR_MENUOPT2(0, "Default all grades", 'D', SCR_GMENABLE, (char *)NULL, NULL)
,
    SCR_MENUOPT2(0, "Toggle update fields", 'T', SCR_GMENABLE, (char *)NULL, NUL
L),
#ifdef ENABLE_ADA
    SCR_MENUOPT2(0, "Zero all absent hours", 'Z', SCR_GMENABLE, (char *)NULL, NU
LL),
#endif /* ENABLE_ADA */
#ifdef DO_GRADE_AUDIT
    SCR_MENUOPT2(0, "Grade audit history", 'G', SCR_GMENABLE,(char *)NULL,NULL),
#endif /* DO_GRADE_AUDIT */4
    SCR_MENUOPT2(0, (char*)NULL, SCR_ABORT, SCR_GMENABLE, NULL, NULL),
SCR_MENUEND;

int upd_list_size = SCR_MENUSIZE(upd_list);

/* -----
        Main menu
----- */
SCR_MENUSTART(main_menu)
```

1
2
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4

Legend for the def.c file:

1. mac.h include
2. schema file def.c's
3. global program variables
4. structure definitions

mac.h Files

Every program uses a macro header (mac.h) file, located in the following paths:

- $CARSPATH/src/common/forment
- $CARSPATH/src/regist/chgrds
- $CARSPATH/src/regist/grading
- $CARSPATH/src/regist/grdbatch
- $CARSPATH/src/regist/grdmail
- $CARSPATH/src/regist/grdrpt
- $CARSPATH/src/regist/grdscan
- $CARSPATH/src/regist/reglist
- $CARSPATH/src/regist/regrnd

The *mac.h* file for a screen-oriented program can contain the following information:

- Includes related to system header files
- Includes related to CX library and other application processes
- Includes for schema files mac.h files
- Program constant definitions (i.e., *#define* statements)
- Structure definitions

Example of a mac.h File

The following is an edited excerpt from the mac.h file for *grading*. It illustrates the common components of a standard CX mac.h file.

Note: The legend for the file contents directly follows this example.

```
#include <util/cars.h>
#include <ctype.h>
#include <memory.h>
#include <string.h>

#include <schema/student/tgrdgmac.h>
#include <schema/student/tgrdmac.h>

#define GRADESUM     "regist/grading/sum"
#define CRSSTAT      "regist/grading/crsstat"
#define DEGGRP       "regist/grading/deggrp"

#define QUERY_OPT       'Q'
#define UPDATE_OPT      'U'
#define CALC_OPT        'C'

/* Used section structure */

struct usedsec_type
    {
    char                crs[13];        /* Course number */
    char                sec[3];         /* Section number */
    };
```

1
2
3
4

Legend for the mac.h file:

1. includes for header files
2. includes for schema files
3. program constant definitions
4. structure definitions

SECTION 6 – GENERATE RANDOM NUMBERS PROGRAM

Overview

Introduction

This section provides reference information about the Generate Random Numbers program (*regrnd*). The Grading product uses *regrnd* to generate random numbers used in anonymous grading. The random numbers can be unique across programs. The Generate Random Numbers program will update either the Academic record (stu_acad_rec) or the Program Enrollment record (prog_enr_rec).

Program Features Detailed

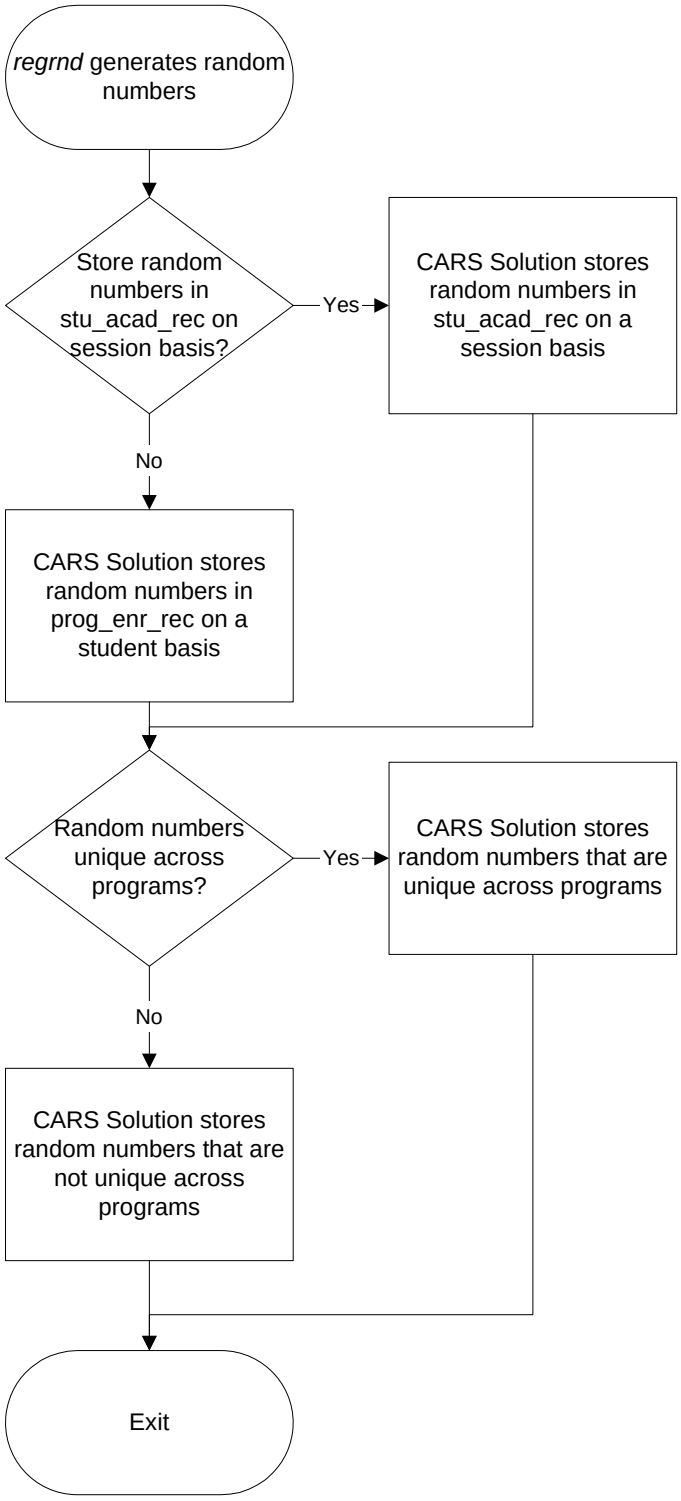
This section contains details about the following features of the Generate Random Numbers program:

- Process flow
- Parameters
- Program screens and windows

Process Flow

Diagram

The following diagram shows the flow of data in the Generate Random Numbers program.



Data Flow Description

The following describes the data flow in the Generate Random Numbers program.

1. The Generate Random Numbers program generates random numbers to use for anonymous grading.
2. The *regrnd* program stores random numbers either in the stu_acad_rec on a session basis or in the prog_enr_rec on a student basis.
3. The *regrnd* program stores random numbers either unique or not unique across programs.
4. Exit the *regrnd* program.

Program Relationships

The following programs use the Generate Random Numbers program: None

Tables and Records Used

The *regrnd* program uses the following Common and Grading tables and records.

Note: For information about the Common tables and records, see the *CX System Reference Technical Manual*. For information about the Grading tables and records, see the section *Grading Tables and Records* in this manual.

Common tables and records
None

Grading tables and records

- prog_enr_rec
- stu_acad_rec

Special Function Flags

The Generate Random Numbers program uses no records that have special function flags.

Parameters

Introduction

CX contains parameters and compilation values for executing the Generate Random Numbers program. You can specify parameters to compile the Generate Random Numbers program in a specified manner at the time of execution.

Note: You also can specify compilation values with the includes for the Grading product that affect the Generate Random Numbers program.

Parameter Syntax

You can display Generate Random Numbers parameters by entering the following: **regrnd -,**

The following is the correct usage for running the Generate Random Numbers program from the UNIX shell:

regrnd -y year -s session -p program -L site

Parameters that appear in brackets are optional. Parameters that do not appear in brackets are required.

Parameters

The following lists the parameters for running Generate Random Numbers.

-y year
Required - Specifies the year associated with the specified session.

Example: regrnd –y 2000

-s session
Required - Specifies the academic session.

Example: regrnd –s FA

-p program
Required - Specifies the academic program code.

Example: regrnd –p UNDG

-L site
Required - Specifies the site value.

Example: regrnd –L CARS

Program Screens and Windows

Introduction

Generate Random Numbers has no screens and windows because it is a batch program.

SECTION 7 – GRADE BATCH PROGRAM

Overview

Introduction

This section provides reference information about the Grade Batch program (*grdbatch*). The Web Grade Entry product uses *grdbatch* to process grades entered via the Web. The perl script, grdent.cgi, which manages Web user input for entering grades, calls the *grdbatch* program to process grades and update the Course Work record (cw_rec). See the *Web Technical Manual* for additional information about entering grades via the Web.

The *grdbatch* program operates off of an intermediary database table for input. This permits the *grdbatch* program to be used for grade processing when grades are submitted via interfaces other than the Web.

Program Features Detailed

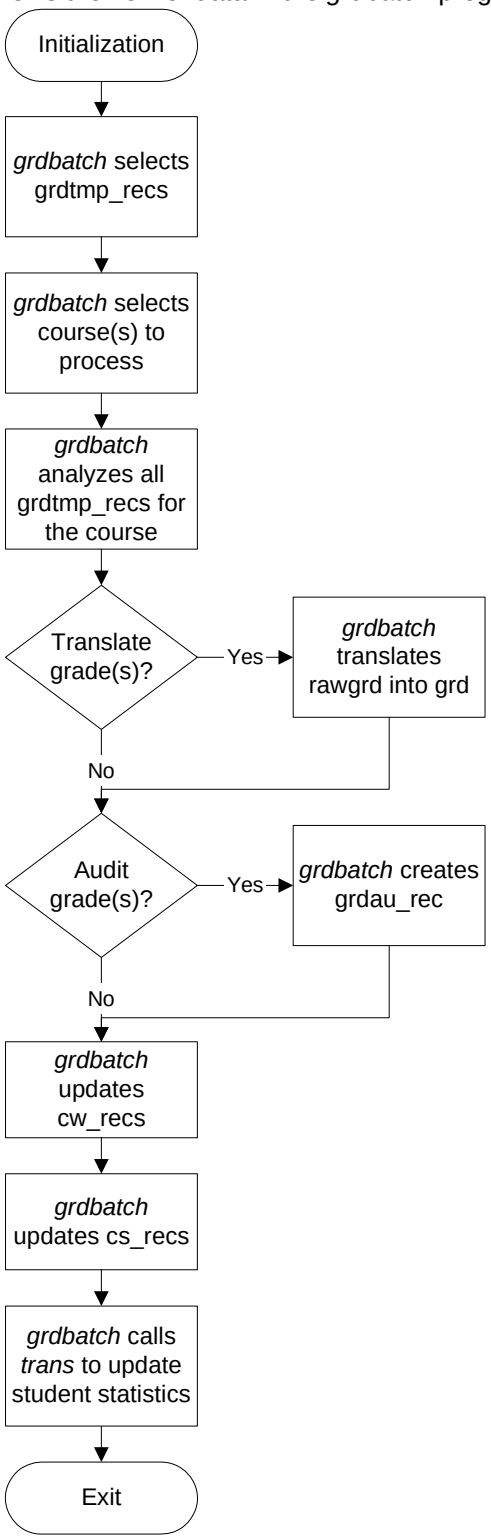
This section contains details about the following features of the *grdbatch* program:

- Process flow
- Parameters

Process Flow

Diagram

The following diagram shows the flow of data in the *grdbatch* program.



Data Flow Description

The following describes the data flow in the *grdbatch* program.

1. The *grdbatch* program selects grdtmp_recs.
2. The *grdbatch* program selects the course(s) to process.
3. The *grdbatch* program analyzes each grdtmp_rec, validates the grade change, and updates the cw_rec.
4. If you want to translate the grade(s), *grdbatch* translates the rawgrd into the grd.
5. If you want to audit the grade(s), *grdbatch* creates the Grade Audit record(s).
6. The *grdbatch* program updates cw_recs.
7. The *grdbatch* program updates cs_recs.
8. The *grdbatch* program calls the Transcript program (*trans*) to update student statistics.
9. Exit the *grdbatch* program.

Grade Processing Functions

The following describes the functionality of the *grdbatch* program:

1. The *grdbatch* program selects all Grade Temp records (grdtmp_rec) where the cmpl_date is null and meeting any optional parameter values that have been passed.
2. If the course is not specified in the parameters, it selects all courses that are to be included in the processing. For each course:
    - The Grade Batch program verifies permissions to this course and the type of grade changes allowed (i.e., entry and/or update of grades). If disallowed, *grdbatch* queues the appropriate mail message and continues to the next course.
    - The Grade Batch program selects all grdtmp_recs for the course.
3. For each Grade Temp record:
    - The Grade Batch program validates the grade change made against the permissions of use (i.e., entry and/or update).
    - The Grade Batch program validates whether the students's Course Work record status (cw_rec.stat) is R. If it is W, *grdbatch* allows no grade change.
    - The Grade Batch program validates whether the student's current Course Work record grade (cw_rec.grd) can be changed by checking the Web update flag (grd_table.web_upd).
    - The Grade Batch program validates the grade against the Grade table and changes the grade if it is not appropriate for the student's grading type. If the INCL_TRANSLATE_GRADE macro is enabled, the Grade Batch program stores the originally entered grade in the Course Work record (cw_rec.rawgrd column) for raw grades or the cw_rec.midsess_rawgrd for midterm grades.
    - If this grade change is disallowed for any of the preceding reasons, the Grade Batch program queues a mail message and continues to the next row.
    - The Grade Batch program determines whether the new grade is different from the Course Work record grade (cw_rec.grd). If there is no change, it sets the compl_date in the Grade Temp record (grdtmp_rec) and updates the Grade Temp record. If the raw grade was changed, *grdbatch* changes the Course Work record raw grade

(cw_rec.rawgrd) value, even though the Course Work record grade (cw_rec.grd) is unchanged, and continues to the next row.

- If the value of the AUTO_GRD_UPD compile option is set, and if the grade in the Grade Temp record grade (grdtmp_rec.grd) is IP, *grdbatch* changes the grade to NR.
- The Grade Batch program posts the grade by doing the following:
  - It updates the grade and raw grade values of the Course Work record (cw_rec), midsess_grd, and midsess_rawgrd
  - It performs grade audit functions for final grades
- The Grade Batch program updates the grd_stat field of the student's Academic record (stu_acad_rec.grd_stat) to M if the –F value is N, otherwise it updates the value to F.
- The Grade Batch program updates the Grade Temp record's completion date (grdtmp_rec.cmpl_date) to today's date.
- The Grade Batch program maintains a count of the number of students it processes.
- The Grade Batch program formats and queues a confirmation mail entry related to processing the student and gives the grade provided in the grdtmp_rec.

4. If the –u parameter is passed, the Grade Batch program updates the course statistics for each course it processed.
5. If the –U parameter is passed, the Grade Batch program calls the Transcript program (*trans*) with options to update student statistics for each course it processed.
6. When the *grdbatch* program completes its process, it sends a confirmation e-mail message to the user. See *Confirmation E-mail to User* in this technical manual for details about this process.

Confirmation E-mail to User

1. When the *grdbatch* program completes its process, it sends a confirmation e-mail message to the user. The confirmation e-mail will include the following information in the header:
   - number of students processed
   - crs_no, cat, sec_no, sess, yr
   - variable text from the Configuration table (config_table)
   - listing of all students processed and the grade entered

     Note: In the case of translated grades, the grade shown here will be the raw grade the user entered.

   - some identifying mark to indicate those grades that have been changed from their previous value
2. The Grade Batch program will include in the confirmation e-mail message all students included on the submitted form.
3. If multiple courses are processed in a single run, the preceding information is repeated for each course. Each course will be contained in a separate e-mail message.
4. The value for the variable text the *grdbatch* program will include in the e-mail message will come from one of these values in the Configuration table (config_table):
   - GRDBATCH_FINAL_EMAIL_MSG (The message to be included in the mail for processing final grades.)

- GRDBATCH_MID_EMAIL_MSG (The message to be included in the mail for processing midterm grades.)

5. The Grade Batch program will send the e-mail message to the following:
   - The person who is running the batch update, if other than the Web administrator (webadmin)
   - The person whose ID was passed as a parameter to the process via the -e parameter
   - The e-mail address of the sec_rec.fac_id, if different from the person who entered the grades
   - The person who entered the grades, given by the grdtmp_rec.user_id
6. To get the appropriate e-mail address, the process selects from the Alternate Address record (aa_rec) in a manner similar to that used to get the e-mail address for use in the other various Web pages.
7. A sample e-mail message follows:

   Example: Grades submitted for course “AGR115” section “01” catalog “UG98”

   Session SP 2000

   Submitted by: Professor, Mary

   Date processed: 05/31/2000

   Below are the final grades submitted via the Web. Please confirm the values listed.

----------Name----------	---ID----	Grd-	---Action---
Thompson, Robert	5039781	C+	Unchanged
Shick, Charles William	5039781	C+	Unchanged
Jones, Rod	1242947	B	Unchanged

Program Relationships

The *grdbatch* program calls the *Libreg* library.

Tables and Records Used

The *grdbatch* program uses the following Common and Grading tables and records.

Note: For information about the Common tables and records, see the *CX System Reference Technical Manual*. For information about the Grading tables and records, see the section *Grading Tables and Records* in this manual.

Common tables and records

The Grade Batch program does not use any common tables and records.

Grading tables and records

- crs_rec
- cw_rec
- grd_table
- grdau_rec

- grdtmp_rec
- id_rec
- instr_rec
- mtg_rec
- prog_enr_rec
- sec_rec
- secmtg_rec
- stu_acad_rec
- stu_stat_rec
- trans_comm_rec

Special Function Flags

- The Grade Batch program uses no records that have special function flags.

Parameters

Introduction

CX contains parameters and compilation values for executing the Grade Batch program. You can specify parameters to compile Grade Batch in a specified manner at the time of execution.

Note: You also can specify compilation values with the includes for the Grading product that affect the Grade Batch program.

Parameters for the *grdbatch* program provide information necessary to select all Grade Temp records (grdtmp_rec) associated with a user for a course.

Parameter Syntax

You can display *grdbatch* parameters by entering the following: **grdbatch -,**

The following is the correct usage for running the Grade Batch program from the UNIX shell:

grdbatch -L Site [-s Session] [-c Catalog] [-C Course Number] [-S Section Number] [-y Year] [-F] [-u] [-U] [-e Email ID]

Parameters that appear in brackets are optional. Parameters that do not appear in brackets are required.

Parameters

The following lists the parameters for running Grade Batch.

-L Site
Required - Specifies the site used when updating student statistics.

Example: grdbatch -L CARS

-s Session
Optional - Specifies the academic session associated with the course being processed..

Example: grdbatch -s FA

-c Catalog
Optional - Specifies the catalog associated with the course being processed.

Example: grdbatch -c UG00

-C Course Number
Optional - Specifies the course number associated with the course being processed.

Example: grdbatch -C ENG100

-S Section Number
Optional - Specifies the section associated with the course being processed.

Example: grdbatch -S 01

-y Year
Optional - Specifies the year associated with the course being processed.

Example: grdbatch -y 2000

-F
Optional - Either Y (Final) or N (Midterm) indicating whether this grade posting is final or midterm grades.

Example: grdbatch -F

-u
Optional - Either Y (Yes) or N (No) indicating whether to update course statistics for this course.

Example: grdbatch -u

-U
Optional - Either Y (Yes) or N (No) indicating whether to update student statistics for students in this course.

Example: grdbatch -U

-e Email ID
Optional - Specifies the identification number (id_rec.id) of the person in the registrar's office to receive confirmation e-mail of all processed courses.

Example: grdbatch -e 1411

Program Screens and Windows

Introduction

- Grade Batch has no screens and windows because it is a batch program.

SECTION 8 – GRADE MAILER PROGRAM

Overview

Introduction

This section provides reference information about the Grade Mailer program (*grdmail*). The Grading product uses the Grade Mailer program to produce grade change mailers for students who have grade changes as noted in the grade audit process. The Grade Mailer program will not create grade change mailers for students who have no grade changes. The program is intended for use only with grade audit functionality.

Program Features Detailed

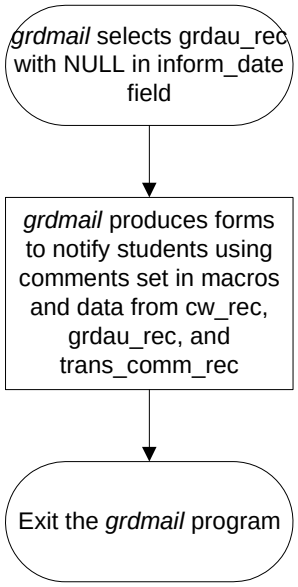
This section contains details about the following features of the Grade Mailer program:

- Process flow
- Parameters
- Program screens and windows

Process Flow

Diagram

The following diagram shows the flow of data in the Grade Mailer program.



Data Flow Description

The following describes the data flow in the Grade Mailer program.

1. The Grade Mailer program selects a Grade Audit record (grdau_rec) with a NULL in the inform_date field.
2. The Grade Mailer program produces forms for those records it selected to notify students using comments set in macros and data from the cw_rec, grdau_rec, and trans_comm_rec.
3. Exit the Grade Mailer program.

Program Relationships

No programs use Grade Mailer.

Tables and Records Used

The *grdmail* program uses the following Common and Grading tables and records.

Note: For information about the Common tables and records, see the *CX System Reference Technical Manual*. For information about the Grading tables and records, see the section *Grading Tables and Records* in this manual.

Common tables and records

- id_rec

Grading tables and records

- cw_rec
- grdau_rec

Special Function Flags

The Grade Mailer program uses no records that have special function flags.

Parameters

Introduction

CX contains parameters and compilation values for executing the Grade Mailer program. You can specify parameters to compile Grade Mailer in a specified manner at the time of execution.

Note: You also can specify compilation values with the includes for the Grading product that affect the Grade Mailer program.

Parameter Syntax

You can display Grade Mailer parameters by entering the following: **grdmail -,**

The following is the correct usage for running the Grade Mailer program from the UNIX shell:

grdmail –f form [-a run code] [-s sort] [-l adr id] [-u]

Parameters that appear in brackets are optional. Parameters that do not appear in brackets are required.

Parameters

The following lists the parameters for running Grade Mailer.

-f form
Required - Specifies the form code for the grade change mailer.

Example: grdmail -f grdmail

-a run code
Optional - Specifies the alternate address runcode. The default is GRDMAIL (Grade change mailer).

Example: grdmail –a grdmail

-s sort
Optional - Specifies the sort order, either by name or ID. The default is NAME.

Example: grdmail -s name

-l adr id
Optional - Specifies the ID number for ADR to use to select names (id_used_by). The default is 0.

Example: grdmail -l 12345

Notes:

- The value determines which addree_rec to use (e.g., -l 12345) in which the value is the ID number of the individual running the request to print grade change mailers. This value is the ID number associated with the id_used_by value in the addree_rec.
- The parameter is optional and is used to select an alternate name to be used on the grade change mailer.

-u
Optional - Specifies a one-line space after each group of comments on the form.

Example: grdmail -u

Program Screens and Windows

Introduction

Grade Mailer has no screens and windows because it is a batch program.

SECTION 9 – GRADE REPORT PROGRAM

Overview

Introduction

This section provides reference information about the Grade Report program (*grdrpt*). The Grading product uses the Grade Report program to determine which grades to print on grade reports and to construct and format the report output.

Program Features Detailed

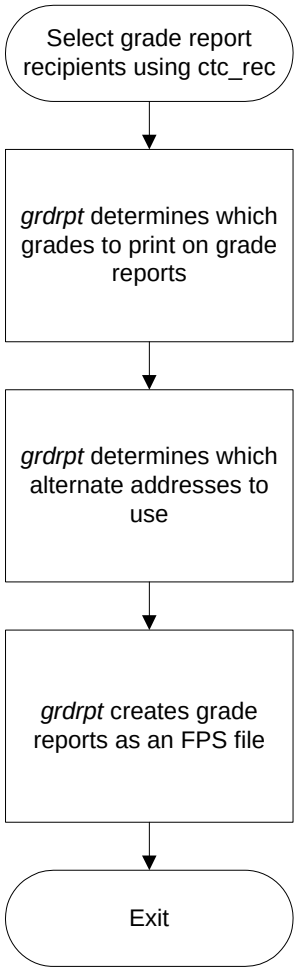
This section contains details about the following features of the Grade Report program:

- Process flow
- Parameters
- Program screens and windows

Process Flow

Diagram

The following diagram shows the flow of data in the Grade Report program.



Data Flow Description

The following describes the data flow in the Grade Report program.

1. Select grade report recipients using Contact records (ctc_rec).
2. The Grade Report program determines which grades to print on grade reports.
3. The Grade Report program determines which alternate addresses to use.
4. The Grade Report program creates grade reports as FPS files.
5. The Grade Report program uses the Forms Production System to send grade reports to a printer.
6. Exit the Grade Report program.

Program Relationships

The Grade Report program uses the FPS process to print the output.

Tables and Records Used

The Grade Report program uses the following Common and Grading tables and records.

Note: For information about the Common tables and records, see the *CX System Reference Technical Manual*. For information about the Grading tables and records, see the section *Grading Tables and Records* in this manual.

Common tables and records

- ctc_rec
- id_rec

Grading tables and records

- acad_stat_table
- cl_table
- cntg_table
- crs_rec
- cw_rec
- deg_table
- grd_table
- grdmsg_rec
- grdmsg_table
- major_table
- minor_table
- prog_enr_rec
- sec_rec
- sess_table
- stu_stat_rec
- subprog_table
- trans_comm_rec

Special Function Flags

The Grade Report program uses no records that have special function flags.

Parameters

Introduction

CX contains parameters for executing the Grade Report program. You can specify parameters to run the Grade Report program in a specified manner at the time of execution.

Note: You also can specify compilation values with the includes for the Grading product that affect the Grade Report program at compile time.

Parameter Syntax

You can display Grade Report parameters by entering the following: **grdrpt -,**

The following is the correct usage for running the Grade Report program from the UNIX shell:

grdrpt -p prog -y year -s sess -L site -F form keys -Z deggrp -b begdate -e enddate

Parameters that appear in brackets are optional. Parameters that do not appear in brackets are required.

Parameters

The following lists the parameters for running Grade Report.

-p prog
Required – Specifies the academic program code.

Example: grdrpt -p UNDG

-y year
Required only if begin and end date ranges are passed – Specifies the year associated with the specified session.

Example: grdrpt -y 2000

-s sess
Required only if begin and end date ranges are passed – Specifies the academic session.

Example: grdrpt -s FA

-L site
Required – Specifies the site of students to process.

Example: grdrpt -L CARS

-F form
Required – Specifies the form code.

Example: grdrpt -F grdrpt

keys
Required – Specifies a combination of zero or more of the following:

- -a adr_code (Specifies the ADR run code for alternate addresses)
- -i adr_id (Specifies the ADR user's ID number)
- -m (Specifies midterm grades)
- -f (Specifies final grades)
- -t text (Specifies up to 80 character text message for form [-t may be given up to five times])

-Z deggrp
Optional – Specifies the degree group value of the sections to select.

Example: grdrpt –Z FA980001

-b begdate
Optional – Specifies the beginning date of the date range of the section begin date to select.

Example: grdrpt –b 01/01/2000

-e enddate
Optional – Specifies the ending date of the date range of the section end date to select.

Example: grdrpt –e 05/15/2000

Program Screens and Windows

Introduction

Grade Report has two forms for performing the following functions:

- Preparing grade reports to report midterm grades
- Preparing grade reports to report final grades

Access

The form files for Grade Report are located in the following directory paths:

- $CARSPATH/modules/regist/forms/grdrpt

Screen Files and Table/Record Usage

The Grade Report screens and forms appear in the following files and use the indicated tables and records.

final
Contains the Report of Grades form.

Access: $CARSPATH/modules/regist/forms/grdrpt

Tables/Records:

- acad_stat_table
- cl_table
- cw_rec
- grdmsg_rec
- grdmsg_table
- id_rec
- major_table
- prog_table
- prog_enr_rec
- stu_acad_rec
- stu_serv_rec
- stu_stat_rec

midsess
Contains the Midsession Report of Grades form.

Access: $CARSPATH/modules/regist/forms/grdrpt

Tables/Records:

- acad_stat_table
- cl_table
- cw_rec
- grdmsg_rec

- grdmsg_table
- id_rec
- major_table
- prog_table
- prog_enr_rec
- stu_serv_rec

SECTION 10 – GRADE SCANNING PROGRAM

Overview

Introduction

This section provides reference information about the Grade Scanning program (*grdscan*). The Grading product uses the Grade Scanning program to post grades from the datafile of the specified third party software to the CX database (cw_rec).

Note: The purpose of the datafile from the third party software is to provide a point of entry for the Grade Scanning program.

Program Features Detailed

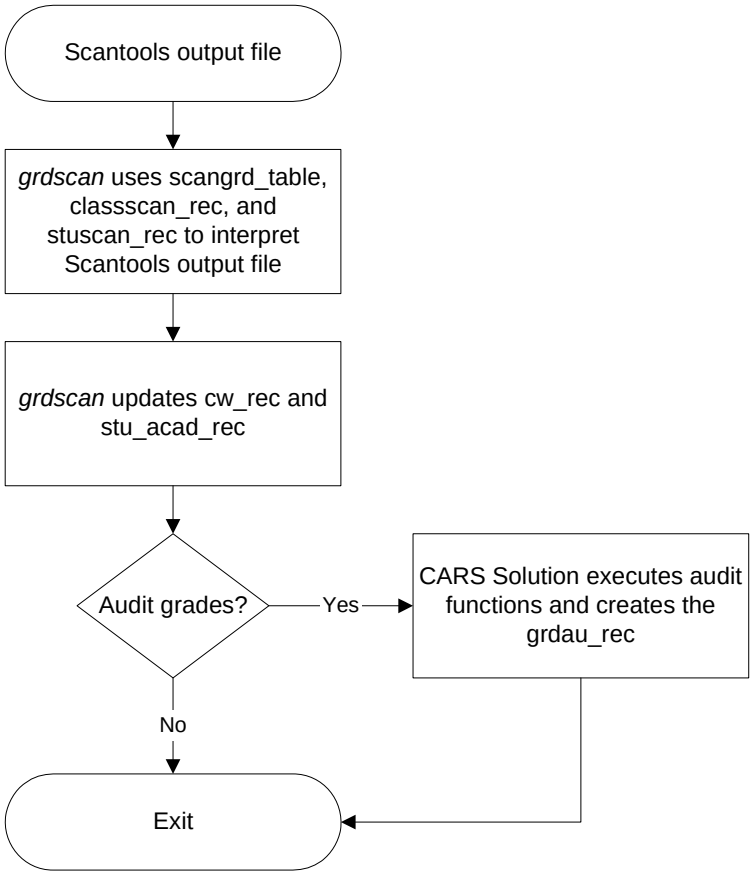
This section contains details about the following features of the Grade Scanning program:

- Process flow
- Parameters
- Program screens and windows

Process Flow

Diagram

The following diagram shows the flow of data in the Grade Scanning program.



Data Flow Description

The following describes the data flow in the Grade Scanning program.

1. The Grade Scanning program accepts a Scantools output file.
2. The Grade Scanning program uses the scangrd_table, classscan_rec, and stuscan_rec to interpret the Scantools output file.
3. The Grade Scanning program updates the cw_rec and stu_acad_rec.
4. If you want to audit grade changes, CX executes audit functions and creates the grdau_rec.

Program Relationships

Grade Scanning uses the *Libreg* library.

Tables and Records Used

The Grade Scanning program uses the following Common and Grading tables and records.

Note: For information about the Common tables and records, see the *CX System Reference Technical Manual*. For information about the Grading tables and records, see the section *Grading Tables and Records* in this manual.

Common tables and records

The Grade Scanning program does not use any common tables and records.

Grading tables and records

- classscan_rec
- cw_rec
- grd_table
- scangrd_table
- stu_acad_rec
- stuscan_rec

Special Function Flags

The Grade Scanning program uses no records that have special function flags.

Parameters

Introduction

CX contains parameters and compilation values for executing the Grade Scanning program. You can specify parameters to run Grade Scanning in a specified manner at the time of execution.

Note: You also can specify compilation values with the includes for the Grading product that affect the Grade Scanning program.

Parameter Syntax

You can display Grade Scanning parameters by entering the following: **grdscan -,**

The following is the correct usage for running the Grade Scanning program from the UNIX shell:

grdscan -f input_file

Parameters

The following lists the parameters for running Grade Scanning.

-f input_file
Required - Specifies the filename of the input data.

Example: grdscan scan001

Program Screens and Windows

Introduction

Grade Scanning program has no screens and windows because it is a batch program.

SECTION 11 – GRADING PROGRAM

Overview

Introduction

This section provides reference information about the Grading program (*grading*). The Grading product uses the Grading program to enter grades of students to their Course Work records and calculate course statistics.

Program Features Detailed

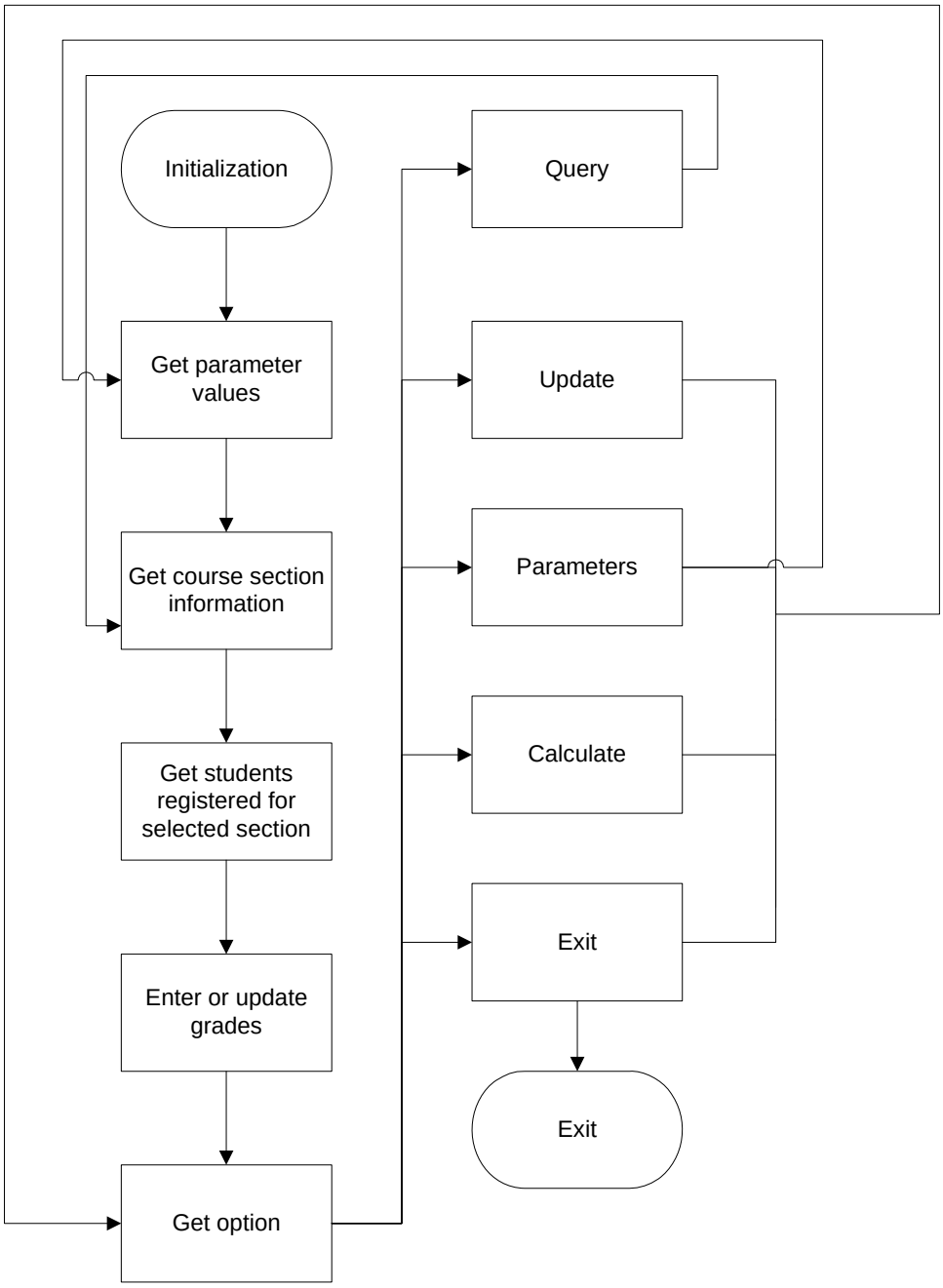
This section contains details about the following features of the Grading program:

- Process flow
- Parameters
- Program screens and windows

Process Flow

Diagram

The following diagram shows the flow of data in the Grading program.



Data Flow Description

The following describes the data flow in the Grading program.

1. **Initialization** - The header, parameter, and section screens always are loaded. The entry

screen that the *grading* program loads is governed by whether anonymous grading is used. The header information screen (displayed at the top of the class list) contains information about the section. Any field from the sec_rec, crs_rec, or fac_rec may be used on the header screen. The field name, sess, will contain the eight-character session and year value.

The entry screen displays the class list. You can use any field from the cw_rec. If using anonymous grading, the first column contains the student's assigned random number. Otherwise, this column contains a sequential number for each student on the class list, beginning at 1. The field, name, will contain the name from the id_rec. The field, grad, will contain an asterisk (*) if the student's planned graduation session and year in the prog_enr_rec match the session and year entered on the initialization screen. The fields s00 through sNN will contain totals of student grades. This is based on the SUMGRADES compilation value that defines the grades to summarize into each position 00 through NN. The first value in SUMGRADES will be totaled in s00, the second in s01, and so on. The number, NN, must be equal to the NSUM value. Therefore, there must be one sNN screen field for each value in SUMGRADES.

2. **Parameters - Get parameter values** – The system displays the initialization screen and gets the session and year, default catalog, and type of grades. The system looks up the session code in the sess_table for validity. The catalog value must be non-blank, and the type of grades must be M or F. If the Execute command is given and all values are valid, *grading* continues. If the Cancel command is given, the program asks whether the operator wants to exit the program.
3. **Get course section information** – The system requests course and catalog input. If the system finds the course and catalog in the crs_rec, the system finds the prog_table record from the crs.prog. If the operator is not in the group number prog.gid, another course must be selected. The system loads all sections from sec.key3 for the course, catalog, session, and year. If the system does not find any, the course and catalog must be selected again. If the system finds one, it selects it; otherwise, it displays all sections it finds and requests the operator for section input. If a section is locked, a message is displayed and another section must be selected. The system displays header information after a valid section has been selected.
4. **Get students registered for the section** – The system finds each cw_rec for the course, catalog, section, session, and year. If the cw.stat is D, the system skips the record. The system then changes the cw.grd or cw.midsess.grd value to the NO_GRADE_GIVEN compilation value, if it is blank or NOT_GRADED, and adds it to the summary totals. The system then finds the id_rec and prog_enr_rec from the cw_rec. The system sorts all student records by name unless anonymous grading is used. If anonymous grading is used, the system sorts student records by random number.
5. **Get option** – The system receives the option entered and takes appropriate action.
6. **Query** – If the Query option is chosen, the system clears the screen so that the course and catalog can be entered to query the next section.
7. **Calculate suboption - Update course statistics for all courses** – The system loads all cw_recs and prog_enr_recs for the session and year values and sorts them by course section. The system then follows the next step for each section.

   Note: The Calculate command is enabled by passing the –C parameter to the *grading* program.
8. **Calculate suboption - Update course statistics for a single course** – The system loads the stu_acad_rec for each student and stores totals of hours, students, quality points, quality hours, and cumulative GPA. The system creates statistics for the section and updates the cs_rec.

9. **Calculate suboption – Update course statistics for a degree group** – The system loads all the prog_enr_recs, stu_acad_recs, and cw_recs associated with the specified degree group, then creates statistics for the related sections, and updates the cs_rec as described in the previous step.
10. **Parameter values** – When the user first enters this option, the process checks the oprdept_table to determine whether the user has permissions to enter or update grades for this course.

    Notes:

    - There are two grade fields on the Grade Entry screen if your institution has the INCL_TRANSLATE_GRADE macro set to Y. The first field is tied to the cw_rec.rawgrd, and the second field is tied to the cw_rec.grd. If no grade translation is done, the two grades always will be the same. If the grade the user enters is invalid for the grading type of the student and the ALLOW_TYPE_UPD is set to Y, the system translates the entered grade to the first grade of equal or greater value (based on the grd_table.val value). This translated grade will display in the second grade column on the screen.

    - The process stores the user-entered grade in the cw_rec.rawgrd column, and it stores the translated grade in the cw_rec.grd column. If the process does no translation, the two column values are the same.

11. **Enter or update student grades** – The system scrolls students' records to allow entry of grading information. Before moving to the next record, the system checks the grade code and the grading type for compatibility. If the Execute command is given, the system updates the cw_rec for each student if any of the grading information changed. If Grade Audit is turned on, the system creates grdau_recs for the changed values. Then the system updates the stuac.grd.stat to M or F for midterm or final grades, respectively. If a Cancel command is given, the system resets the grading information to the original values. Three suboptions are available from this option:
    - Default all grades
    - Toggle update fields
    - Grade audit history
12. **Summary** – The summary screen displays the grade summary for the selected class.

Program Relationships

No programs use Grading.

Tables and Records Used

The Grading program uses the following Common and Grading tables and records.

Note: For information about the Common tables and records, see the *CX System Reference Technical Manual*. For information about the Grading tables and records, see the section *Grading Tables and Records* in this manual.

Common tables and records

- fac_rec
- id_rec

Grading tables and records

- acad_cal_rec
- acad_stat_table
- cat_table
- cntg_table
- crs_rec
- cs_rec
- cw_rec
- grd_table
- grdg_table
- prog_enr_rec
- prog_table
- reg_rec
- sec_rec
- secmtg_rec
- stu_acad_rec
- stu_stat_rec

Special Function Flags

The Grading program uses no records that have special function flags.

Parameters

Introduction

CX contains parameters and compilation values for executing the Grading program. You can specify parameters to compile Grading in a specified manner at the time of execution.

Note: You also can specify compilation values with the includes for the Grading product that affect the Grading program.

Parameter Syntax

You can display Grading parameters by entering the following: **grading -,**

The following is the correct usage for running the Grading program from the UNIX shell:

grading [-d] [-r] [-g] [-u] [-X] [-i] [-a] [-C]

Parameters that appear in brackets are optional. Parameters that do not appear in brackets are required.

Parameters

The following lists the parameters for running Grading.

-d
Optional - Specifies access to *grading* in display-only mode (i.e., does not allow grade changes).

-r
Optional - Specifies to sort students by random number in the same order they appear on the grade report the instructor submits.

Note: Use this parameter for anonymous grading.

-g
Optional - Specifies to sort by graduating students.

Example: grading -g

-u
Optional - Specifies to allow updates of only the grade code field, regardless of whether there are other fields that may be updated.

Note: Use the –u option to update the grade code for students without allowing access to the grading type.

-X
Optional - Specifies to sort students by course number (for cross-listed class lists).

Example: grading -X

-i
Optional - Specifies to ignore cross-listed courses (for cross-listed class lists).

Note: Use the –i option to display a list of students enrolled in each section without mixing students in cross-listed sections.

-a
Optional - Specifies to check the first and last update dates before allowing updates.

Example: grading -a

-C
Optional - Specifies to enable the calculate statistics option.

Note: When the calculate option is selected, the user will be presented with three alternatives via a submenu off the main menu:

- Calculate statistics for all courses
- Calculate statistics for only a single course
- Calculate statistics for only accelerated degree courses

Program Screens and Windows

Introduction

Grading has screens and windows for performing the following interactive functions:

- Entering grades of students
- Specifying the degree group when updating course statistics for a degree group
- Specifying a course, section, and catalog when updating course statistics
- Specifying the initialization parameters
- Displaying the Summary window for grade information
- Displaying the list of sections for the specified course and catalog

Access

The screen and window files for Grading are located in the following directory path:

- $CARSPATH/src/regist/grading/SCR

Notes:

- You can access windows from each program screen in Grading.
- See the *CX System Reference Technical Manual* for information about common windows that appear in Grading.

Screen Files and Table/Record Usage

The Grading screens and windows appear in the following files and use the indicated tables and records.

crsstat
Contains the Single Course window that appears when you select Single courses from the Calculate command options of the Grade Entry screen.

Access: $CARSPATH/src/regist/grading/SCR

Tables/Records:

- cat_table
- crs_rec
- sec_rec

deggrp
Contains the Degree Group window that appears when you select Degree Group from the Calculate command options of the Grade Entry screen.

Access: $CARSPATH/src/regist/grading/SCR

Tables/Records:

- deggrp_table

entry
Contains the Grade Entry screen.

Access: $CARSPATH/src/regist/grading/SCR

Tables/Records:

- cntg_table
- cw_rec
- id_rec
- grd_table
- grdg_table

entryanon
Contains the Grade Entry screen used in Anonymous Grading.

Access: $CARSPATH/src/regist/grading/SCR/

Tables/Records:

- cw_rec
- id_rec
- stu_acad_rec

grhelp
Contains the Help pop-up window used in Grade Entry when Grade Audit is on.

Access: $CARSPATH/src/regist/grading/SCR

Tables/Records: None

head
Contains the Grade Entry screen header.

Access: $CARSPATH/src/regist/grading/SCR

Tables/Records:

- ada_rec
- cat_table
- crs_rec
- cw_rec
- deggrp_table
- fac_rec
- sec_rec

help
Contains the Help pop-up window used in Grade Entry when Grade Audit is not on.

Access: $CARSPATH/src/regist/grading/SCR

Tables/Records: None

parms
Contains the Grade Entry Parameters screen.

Access: $CARSPATH/src/regist/grading/SCR

Tables/Records: None

sec
Contains the Section List screen.

Access: $CARSPATH/src/regist/grading/SCR

Tables/Records:

- fac_rec
- sec_rec

sum
Contains the Summary window.

Access: $CARSPATH/src/regist/grading/SCR

Tables/Records: None

SECTION 12 – MASS CHANGE GRADES PROGRAM

Overview

Introduction

This section provides reference information about the Mass Change Grades program (*chgrds*). The Grading product uses the Mass Change Grades program to change a specified grade for all students in a particular session, year, and program.

Program Features Detailed

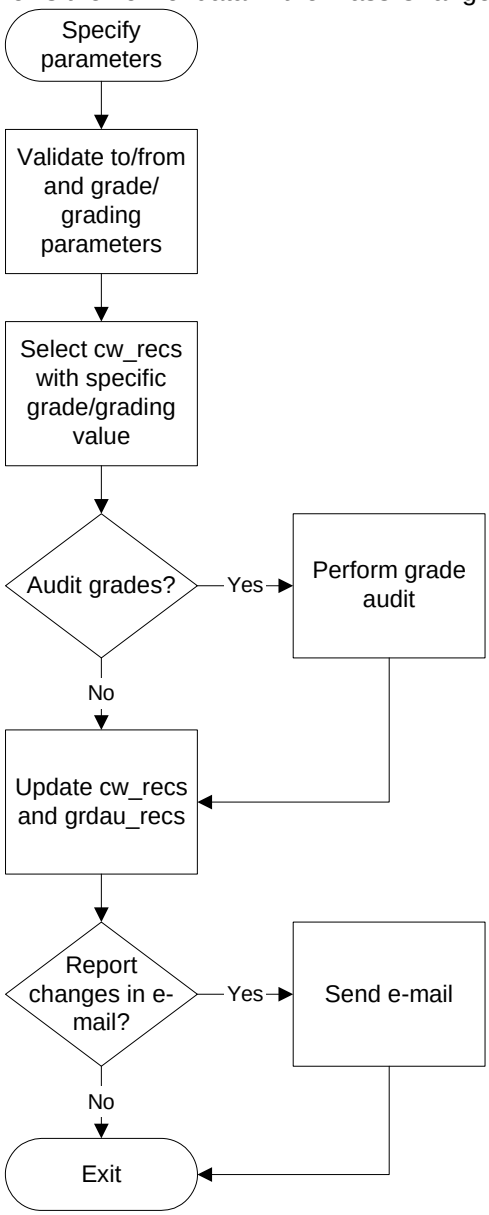
This section contains details about the following features of the Mass Change Grades program:

- Process flow
- Parameters
- Program screens and windows

Process Flow

Diagram

The following diagram shows the flow of data in the Mass Change Grades program.



Data Flow Description

The following describes the data flow in the Mass Change Grades program.

1. Specify grade change parameters including the old grade, old grade type, new grade, new grade type, program, session, and year to which grade changes apply.
2. Validate the to/from and grade/grading parameters.
3. Select Course Work records (cw_recs) with the specified grade and grading values.

4. If you want to audit grades, perform a grade audit.
5. Update affected Course Work records (cw_rec) and Grade Audit records (grdau_rec).
6. If desired, print a report (i.e., the Mass Grade Change Report) of changed grades to send via e-mail.
7. Exit Mass Change Grades.

Program Relationships

No programs use Mass Change Grades.

Tables and Records Used

The Mass Change Grades program uses the following Common and Grading tables and records.

Note: For information about the Common tables and records, see the *CX System Reference Technical Manual*. For information about the Grading tables and records, see the section *Grading Tables and Records* in this manual.

Common tables and records

- id_rec

Grading tables and records

- acad_cal_rec
- cw_rec
- grd_table
- grdg_table

Special Function Flags

The Mass Change Grades program uses no records that have special function flags.

Parameters

Introduction

CX contains parameters and compilation values for executing the Mass Change Grades program. You can specify parameters to compile Mass Change Grades in a specified manner at the time of execution.

Note: You also can specify compilation values with the includes for the Grading product that affect the Mass Change Grades program.

Parameter Syntax

You can display Mass Change Grades parameters by entering the following: **chgrds -,**

The following is the correct usage for running the Mass Change Grades program from the UNIX shell:

chgrds -F from_grade -f from_grade_type -T to_grade -t to_grade_type -p prog -s sess -y year [-r report_flag]

Parameters that appear in brackets are optional. Parameters that do not appear in brackets are required.

Parameters

The following lists the parameters for running Mass Change Grades.

-F from_grade
Required – Specifies the grade to change (e.g., D).

Example: chgrds –F D

--f from_grade_type
Required - Specifies the grading type of the grade to change (e.g., LT for letter).

Example: chgrds –f LT

-T to_grade
Required - Specifies the new grade (e.g., C).

Example: chgrds –T C

-t to_grade_type
Required - Specifies the grading type of the new grade (e.g., LT for letter).

-p prog
Required - Specifies the code of the academic program (e.g., UNDG for undergraduate).

Example: chgrds –prog UNDG

-s sess
Required - Specifies the code of the academic session to process (e.g., FA for Fall).

Example: chgrds –s FA

-y year
Required - Specifies the academic year to process (e.g., 2000).

Example: chgrds –y 2000

r report_flag
Optional – Specifies to send the report of changed grades (i.e., Mass Grade Change Report) to mail.

Example: chgrds –r

Program Screens and Windows

Introduction

Mass Change Grades program has no screens and windows because it is a batch program.

SECTION 13 – REGISTRATION LIST PROGRAM

Overview

Introduction

This section provides reference information about the Registration List program (*reglist*). The Grading product uses Registration List to create scan lists for grade scanning, to create grade sheets instructors use to record grades, and to confirm entered grades. The Registration List program creates FPS files as output.

Program Features Detailed

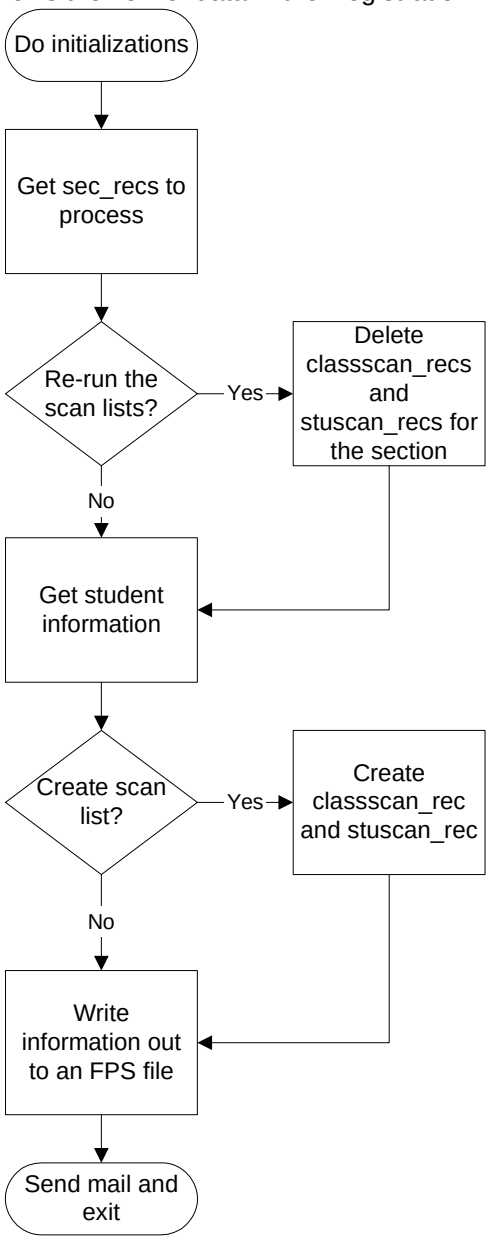
This section contains details about the following features of the Registration List program:

- Process flow
- Parameters
- Program screens and windows or forms

Process Flow

Diagram

The following diagram shows the flow of data in the Registration List program.



Data Flow Description

The following describes the data flow in the Registration List program.

1. Do initializations such as parsing the parameters and opening the database.
2. The Registration List program gets Section records to process.
3. If you want to re-run the scan list, the Registration List program deletes the Class Scan records (classscan_recs) and Student Scan records (stuscan_recs) for the section.

4. The Registration List program gets student information.
5. If you want to create scan lists, the Registration List program creates classscan_recs and stuscan_recs.
6. The Registration List program writes class and student information out to the FPS file.
7. The Registration List program sends mail notification before you exit the program.

Program Relationships

No programs use Registration List.

Tables and Records Used

The Registration List program uses the following Common and Grading tables and records.

Note: For information about the Common tables and records, see the *CX System Reference Technical Manual*. For information about the Grading tables and records, see the section *Grading Tables and Records* in this manual.

Common tables and records

- ctc_rec
- fac_rec
- id_rec
- profile_rec

Grading tables and records

- adm_rec
- classscan_rec
- crs_rec
- cw_rec
- grdg_table
- mtg_rec
- prog_enr_rec
- reg_rec
- schd_comment_rec
- sec_rec
- secmtg_rec
- stu_acad_rec
- stu_stat_rec
- stuscan_rec
- stu_serv_rec

Special Function Flags

The Registration List program uses no records that have special function flags.

Parameters

Introduction

CX contains parameters and compilation values for executing the Registration List program. You can specify parameters to compile Registration List in a specified manner at the time of execution.

Note: You also can specify compilation values with the includes for the Grading product that affect the Registration List program.

Parameter Syntax

You can display Registration List parameters by entering the following: **reglist -,**

The following is the correct usage for running the Registration List program from the UNIX shell:

reglist [-y year] [-s sess] [-F form] [-L site] [-u subsess] [-C cat] [-D dept] [-N course] [-S section] [-c class] [-l campus] [-W day_of_week] [-f] [-r] [-X] [-i] [-j] [-k] [-a] [-m] [-w] [-B] [-I] [-R] [-M] [-O] [-G scantype] [-t special text] [-z] [-g fsbdate] [-h lsbdate] [-d fsedate] [-e lsedate] [-A fac_id] [-Z deggrp] [-Q]

Parameters that appear in brackets are optional. Parameters that do not appear in brackets are required.

Parameters

The following lists the parameters for running Registration List.

-y year
Optional - Specifies the instructional year.

Example: reglist –y 2000

-s sess
Optional - Specifies the instructional session.

Example: reglist –s FA

-F form
Optional - Specifies the list form.

-L site
Optional - Specifies the site.

Example: reglist –L CARS

-u subsess
Optional - Specifies the subsession of the academic year.

-C cat
Optional - Specifies the catalog.

Example: reglist –C UG01

-D dept
Optional - Specifies the department.

Note: This parameter provides the ability to select a single department.

-N course
Optional - Specifies the course number.

Note: This parameter provides the ability to select a specific course number.

-S section
Optional - Specifies the section.

Note: This parameter allows for a single section of a course.

-c class
Optional - Specifies the class.

Note: This parameter provides the ability to select only students with a specific classification.

-l campus
Optional - Specifies the campus location.

Note: This parameter provides the ability to select sections with at least one meeting on the campus.

-W day_of_week
Optional - Specifies the day of the week.

Note: This parameter provides the ability to select sections with at least one meeting on the day.

Example: reglist –W M

-f
Optional – Specifies to sort lists by faculty name.

-r
Optional - Specifies to sort students by random number.

-X
Optional - Specifies to sort students by course number (for cross-listed class lists).

-i
Optional - Specifies to ignore cross-listed courses (for cross-listed class lists).

Note: This parameter disregards the Y for separate class lists.

-j
Optional - Specifies to include students who dropped a class on or after the first day of class.

Note: This parameter includes all dropped students after the beg_date on the sec_rec.

-k
Optional - Specifies to exclude withdrawn students.

Note: This parameter provides a true list of students who should be attending.

-a
Optional - Specifies to print forms for courses without students.

Example: reglist –a

-m
Optional - Specifies to print only missing grades.

Note: Grading uses this parameter to locate missing grades by section.

-w
Optional - Specifies to print only students on wait lists.

-B
Optional - Specifies to print both confirmed and financially cleared students.

Note: This parameter is valid only if using registration and financial clearance.

-I
Optional - Specifies to print only students with financial clearance.

Note: This parameter is valid only if using financial clearance.

-R
Optional - Specifies to print only confirmed students.

Note: This parameter is valid only if using registration confirmation.

-M
Optional - Specifies to print only matriculated students for evaluation forms.

Note: This parameter is not currently supported.

-O
Optional - Specifies to allow reprinting of class lists for scanning.

Note: This parameter is used in scanning to reprint lost scan forms.

-G scantype
Required only if using scanning - Specifies the type of scan form to use.

Example: reglist –G aclasslist

-t special text
Optional - Specifies text to be printed at the bottom of the class list.

Note: You can specify up to 80 characters per line and up to 5 lines.

Example: reglist –t Return to Registrar's Office before May 23, 2000.

-z
Optional - Specifies to output blank student information lines.

Note: This parameter prints lines in place of blank spaces on forms.

-g fsbdate
Optional - Specifies the first date in the section beginning date range.

Example: reglist –g 02/01/2000

-h lsbdate
Optional - Specifies the last date in the section beginning date range.

-d fsedate
Optional - Specifies the first date in the section ending date range.

-e lsedate
Optional - Specifies the last date in the section ending date range.

Note: The last four date parameters (i.e., -g, -h, -d, -e) can be used to print class lists within a specified date range, and are typically used for alternate calendar sections.

-A fac_id
Optional - Specifies the faculty identification number for selecting sections.

Example: reglist –A 12345

-Z deggrp
Optional - Specifies the degree group for selecting sections.

Example: reglist –Z FA980001

-Q
Optional - Specifies to print only sections with a blank degree group.

Program Screens and Windows

Introduction

Registration List uses form definition files to format the output. The following is the list of form definition files it uses to format the output:

aclasslist
Registration List uses this form as a class list for Anonymous Grading. It does not include names of students.

afinallist
Registration List uses this form as a final grade report for Anonymous Grading. It does not include names of students.

agradelist
Registration List uses this form as a class list with underlines to enter grades for Anonymous Grading. It does not include names of students.

amidlist
Registration List uses this form as a midterm class list for Anonymous Grading.

classlist
Registration List uses this form as a class list. It does not include grades, but it does include names, identification numbers, majors, etc..

contactlst
Registration List uses this form as a contact list for a class. It includes students' names, social security numbers, and telephone numbers.

finallist
Registration List uses this form as a class list for final grades. It includes names and grades of students.

gradelist
Registration List uses this form as a class list for entering grades. It includes underlines for entering grades.

grdscan
Registration List uses this form as a scan form for entering grades.

midlist
Registration List uses this form as a class list for midterm grades. It includes names and grades of students.

permroll
Registration List uses this form as a permanent class list. It might be used to track attendance manually.

roster
Registration List uses this form as an enrollment verification roster.

tmproll
Registration List uses this form as a temporary class list. It might be used to track attendance manually.

waitlist
Registration List uses this form as a wait list.

SECTION 14 – MENUS, SCREENS, SCRIPTS, AND REPORTS

Overview

Introduction

This section provides reference information on the following features of the Grading product:

- Menu source files
- Menu option files
- PERFORM screens
- SQL scripts
- Csh scripts
- ACE reports
- Letters

Directory Locations

The features detailed in this section are located in the following directory paths:

Menu source files
$CARSPATH/menusrc/student/regist/grdg
$CARSPATH/menusrc/student/regist/grdg/grdau
$CARSPATH/menusrc/student/regist/grdg/scanning
$CARSPATH/menusrc/student/regist/anongrdg
$CARSPATH/menusrc/student/regist/accdeg/grdg

Menu option files
$CARSPATH/menuopt/common/programs
$CARSPATH/menuopt/regist/informers
$CARSPATH/menuopt/regist/others
$CARSPATH/menuopt/regist/programs
$CARSPATH/menuopt/regist/reports
$CARSPATH/menuopt/regist/screens
$CARSPATH/menuopt/regist/scripts
$CARSPATH/menuopt/utilities/programs

PERFORM screens
$CARSPATH/modules/regist/screens

SQL scripts
$CARSPATH/modules/regist/informers

Csh scripts
$CARSPATH/modules/regist/scripts

ACE reports
$CARSPATH/modules/regist/others
$CARSPATH/modules/regist/reports

Menu Structure

Introduction

CX menus provide access to a functionally related group of menu options. For example, a CX user in the Admissions office can access all the options necessary for processing prospects, recruits, and applicants from his/her menu, but typically cannot access options for processing accounting information. Depending on the work responsibilities of the CX users at your institution, you can customize their menus to offer access to as many or as few menu options as desired.

The selections that appear on the CX menus at your institution are controlled by a variety of interrelated directories and files. This section explains how the directories and files define CX menus, and it also provides information about the standard CX menu options.

Directories and Files that Define Menu Structures

The directories and files that control the standard CX menus are:

- Menu source directories
- Menu description files
- Menu option files

Menu Source Directories

Menu source (menusrc) directories define the branches of menus and submenus that offer access to CX features. The highest level of the menu source directory, located at $CARSPATH/menusrc, contains files and subdirectories similar to the following:

```
admit/                    student/
fiscal/                   system/
instdev/                  utility/
menudesc
```

Note: In this example, six subdirectories (designated with a slash [/] after their names) and one file appear in the menusrc directory.

The Menu Description File: Example 1

Menusrc directories always contain a menu description (menudesc) file. The menudesc file defines the options available at the current menu level. To continue the example above, the menudesc file in the $CARSPATH/menusrc directory contains the following type of information:

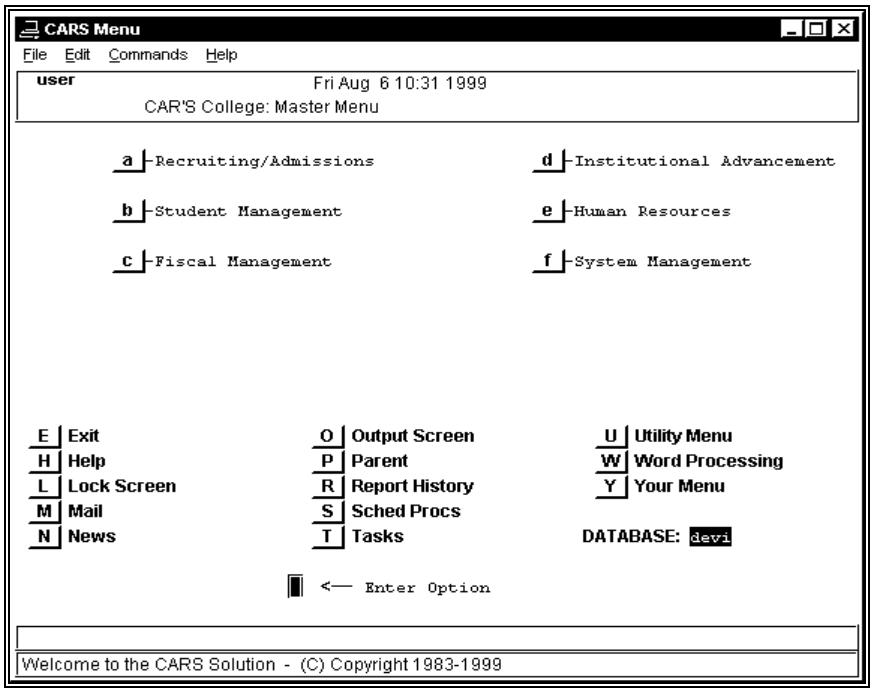
```
#
#Revision Information (Automatically maintained by 'make' - DON'T CHANGE)
#-------------------------------------------------------------------------
#$Header:
#$Log:
#
#-------------------------------------------------------------------------
#
#
TI=INST_NAME: Master Menu
SD=CARS Solution Master Menu
LD=Master Menu For INST_NAME
m4_keepif(ENABLE_MOD_ADMISSIONS, `Y')
MNU_SUB(admit)
m4_keepend
MNU_SUB(student)
MNU_SUB(fiscal)
m4_keepif(ENABLE_MOD_DEVELOP, `Y')
MNU_SUB(instdev)
m4_keepend
MNU_SUB(system)
```

Interpreting the menudesc File in Example 1

In this example, the menudesc file has the following information:

- Comment lines (lines beginning with a pound sign [#])
- Title and descriptive information (lines beginning with TI [title], SD [short description], or LD [long description])
- Keepif lines (lines indicating that a particular submenu is available if a corresponding ENABLE macro is set to Y)
- Keepend lines (lines indicating the end of a macro-controlled option)
- MNU_SUB lines (lines showing the name of the submenu)

Specifically, this example defines a menu called <institution name>: Master Menu. Assuming your institution has purchased the Admissions and Development applications and has enabled the ENABLE_MOD_ADMISSIONS and ENABLE_MOD_DEVELOP macros, your Master Menu would contain the following menu options:



Note: The names used for each of the submenus are controlled in their respective submenus.

Subdirectories in the menusrc Directory

Typically, the menusrc directory for a particular menu also contains subdirectories that relate to that menu's submenu options. In the example of the Master Menu, the following subdirectories are in the main $CARSPATH/menusrc directory, and they relate directly to the menu options that appear on the preceding menu screen example.

admit/
Recruiting/Admissions submenu

fiscal/
Fiscal Management submenu

instdev/
Institutional Advancement submenu

student/
Student Management submenu

system/
System Management submenu

utility/
Utility submenu (accessed from the lower part of the CX menu screen)

Contents of menusrc Subdirectories

The menusrc subdirectories have the same components as the main menusrc directory used in the preceding examples. Each contains subdirectories for more submenus, as well as a menudesc file that defines the appearance and contents of the submenu itself.

Navigating the menusrc Subdirectories

By using UNIX commands to move into any of the menusrc subdirectories and viewing its contents (i.e., its own subdirectories, if any, and its related menudesc file), you can view and map the menus, submenus, and menu options available at your institution. To continue the preceding example, if you enter **cd utility** at the UNIX prompt while in the $CARSPATH/menusrc directory, you can then enter **lsf** to display the contents of the utility subdirectory, as in the following:

```
Makefile            data/            iq/              ltrlblrep/       spooler/
RCS/                document/        login/           menudesc
adr/                files/           ltrlbl/          sbscr/
```

If you then enter **cd data** at the UNIX prompt and execute the **lsf** command again, you display the contents of the data subdirectory, as in the following:

```
Makefile            RCS              menudesc
```

In this example, only a menudesc file appears, indicating that no submenus exist at the $CARSPATH/menusrc/utility/data menu source level. The menudesc file in this case contains the actual menu options you can run from the Utilities/Data Entry menu. If desired, you can view the menudesc file using *vi*, *more*, or other UNIX commands.

The Menu Description File: Example 2

The menudesc file in Example 1 contains references only to submenus, that is, each line in the menudesc file that begins with MNU_SUB refers to a submenu. Another type of line can appear in the menudesc file: the MNU_OPT line. MNU_OPT lines do not refer to submenus; instead, they provide the link from the menu to the actual process (e.g., a program, script, report, or screen) you can run. For example, the menudesc file in the $CARSPATH/menusrc/utility/data directory contains the following type of information:

```
#
#Revision Information (Automatically maintained by 'make' - DON'T CHANGE)
#-------------------------------------------------------------------------
#$Header: menudesc,v 8.1 97/10/03 15:34:36 jdoe Released $
#-------------------------------------------------------------------------
#
TI=Utilities: Data Entry Menu
SD=Data Entry
LD=Data Entry
PW=@STD
MNU_OPT(common/programs/ide)
```

Interpreting the menudesc File in Example 2

In this example, the menudesc file has the following information:

- Comment lines (lines beginning with a pound sign [#])
- Title and descriptive information (lines beginning with TI [title], SD [short description], or LD [long description])
- Password information (the line beginning with PW)
- MNU_OPT line (the line showing the location of the menu option itself)

Notes:

- As with the menudesc file in Example 1, this file also can contain Keepif and Keepend lines to control the availability of optional processes.
- Although the menudesc file in Example 2 contains only one menu option (common/programs/ide), menudesc files can contain as many options as you care to display on a single menu.

Menu Option Files

The menudesc file for a particular menu or submenu points to the specific menu options you can run (e.g., Example 2 referred to the single menu option common/programs/ide, indicating that a common program is the only option available from the selected submenu).

To locate the menu option files for a particular menu, use the following command syntax:

cd menuopt/<directory on menudesc line>

For Example 2, the appropriate command is:

cd menuopt/common/programs

When you list the contents of the directory, the list resembles the following:

```
Makefile            ctcbatchr        ide              tuserid
RCS/                evnte            ide,fa
adrtest             fo.op            perm.a
ctcbatch            fo.stu           perm.c
```

This directory example contains several menu option files that are linked to other menudesc files. By their names, you usually can determine the process the menu option executes. For example, ide and ide.fa run versions of *identry*, and fo.op and fo.stu run versions of *forment*. More than one version of these processes exist because, depending on the needs of each menu user, you may want to use different titles or parameters.

You can view the specific menu option file using *vi*, *more*, or other UNIX commands.

Interpreting the Menu Option File

The menu option file contains three primary types of information:

- A definition of the parameter screen that appears when a user selects the option from the menu, including information for comment lines
- The name of the screen, program, script, or report the menu option executes
- The parameters, if any, that determine how the menu option should execute

An excerpt from the ide file demonstrates these three types of information. The horizontal lines on the excerpt divide the types of information and have been added to help you interpret the file's contents.

```
-------------------------------- Parameter screen ---------------------------------------
}
screen
{
                    m4_center_clipped(ID DATA ENTRY,40)
                    m4_center_clipped(PP_OFFICE[PA5], 40)
                    m4_center_clipped(PP_TICK[PA7], 40)
}
end
attributes
SD: optional,
    default = "ID Data Entry";
PW: optional,
    default = "@STD";
RD1: optional,
    default = "`Functions:'                          ";
RD2: optional,
    default = "";
RD3: optional,
    default = "`Enter ID Records for Individuals'    ";
RD4: optional,
    default = "Enter ID Records for Non-individuals";
PR: optional,
----------------------------------Executed Process-------------------------------------
    default = "BIN_PATH/identry";
--------------------------------Processing Parameters--------------------------------
m4_keepif(ENABLE_FEAT_AUTOMODE, `Y')
PA1: optional,
    default = "-a";
m4_keepelse
m4_keepif(ENABLE_FEAT_FORCEQUERY, `Y')
PA1: optional,
    default = "-F";
m4_keepend
m4_keepend
PA2: optional,
    default = "-D";
PA3: optional,
    default = "3";
PA4: optional,
    default = "-o";
LU5 = ofc_table.txt, optional;
PA5: optional,
    comments = "COMMENT_OFC_TBCODE  COMMENT_TBL",
    length = 4,
    lookup LU5 joining *ofc_table.ofc,
    upshift;
PA6: optional,
    default = "-T";
LU7 = tick_table.txt, optional;
PA7: optional,
    comments = "COMMENT_TICK  COMMENT_TBL",
    length = 4,
    lookup LU7 joining *tick_table.tick,
    upshift;
end
```

Determining the Type of Executed Process

In the preceding example, the location of the menu option ($CARSPATH/menuopt/common/programs) indicates that the menu option executes a program. The reference to BIN_PATH within the menu option file also indicates the execution of a program. However, many menu options execute other types of processes (e.g., screens, scripts, or reports).

The following list shows the type of process executed, the _PATH reference from the menu option file, and the type of menu option directory path in which the process resides.

Process type	_PATH reference	Menu option directory path
Program	BIN_PATH	/programs
C shell script	SCP_PATH	/scripts
Report	ARC_PATH OTH_PATH	/reports /others
SQL statement	INF_PATH	/informers
PERFORM screen	SCR_PATH FRM_PATH	/screens
Utility	UTL_PATH	/utilities

Summary of Menu Source, Menu Description, and Menu Option Information

When you need to modify any menu options in use at your institution, remember the following:

- Menu source directories reflect your CX menus and submenus.
- Menu source directories contain other menu source subdirectories and menu description files.
- Menu description files define the menu options that appear on each menu.
- Menu description files contain lists of the menu options and submenus.
- Menu option files contain the instructions needed to execute each CX process on every menu.

Menu Options

Programs, Screens, and Scripts

The following list associates each Grading program, screen, and script menu option with the corresponding menuopt file and identifies the menuopt locations and what the menu option accesses.

Note: The following menus and options are listed in the order in which they appear on the standard CX menu structure. Italicized parameters indicate those that a user can enter or change.

Registrar: Grading Menu

Grade Entry

Accesses: $CARSPATH/src/regist/grading (Program)

File: $CARSPATH/menuopt/regist/programs/grdg

Parameters Passed:

- -C (Enable the calculate statistics option)

Create Missing Grade List

Accesses: $CARSPATH/modules/regist/others/clgrd (ACE report)

File: $CARSPATH/menuopt/regist/others/clgrdm

Parameters Passed:

- *Session*
- *Subsession*
- *Academic Year*
- *Catalog*
- *Class*
- *Campus*
- *Division*
- *Department*
- *ID#*
- *Grade*
- *Exclude*
- *Grade*
- *Students*
- *Graduated*
- *Students*
- *Print*
- *Print*
- *Print*

- *Text Line 1……*
- *Text Line 2……*
- *Text Line 3……*
- *Text Line 4……*
- *Text Line 5……*
- *Sort: Primary*
- *Sort: Secondary*
- *Sort: Student*

Report by Grade

Accesses: $CARSPATH/modules/regist/reports/grdgrd (ACE report)

File: $CARSPATH/menuopt/regist/reports/grdgrd

Parameters Passed:

- *Session*
- *Academic Year*
- *Program*
- *Subprogram*
- *Status*
- *Grade*

Mass Grade Change

Accesses: $CARSPATH/src/regist/chgrds (Program)

File: $CARSPATH/menuopt/regist/programs/chgrds

Parameters Passed:

- -F *from_grade* (Old grade)
- -f *from_grade_type* (Old grading type)
- -T *to_grade* (New grade)
- -t *to_grade_type* (New grading type)
- -s *sess* (Academic session to process)
- -y *year* (Academic year to process)
- -p *prog* (Academic program)
- -r *report_flag* (Send grade change mailer to mail?)

Update All Student Stats

Accesses: $CARSPATH/src/regist/trans (Program)

File: $CARSPATH/menuopt/regist/programs/trnsg.Cu

Parameters Passed:

- -C (Include current session on transcript)

- -u (Update statistics)
- -Y *Academic year* (Financial aid academic year used for year-to-date statistics)
- -L *site* (Site value)

Update Select Student Stat

Accesses: $CARSPATH/src/regist/trans (Program)

File: $CARSPATH/menuopt/regist/programs/trnsg.Cusy

Parameters Passed:

- -C (Include current session on transcript)
- -u (Update statistics)
- -Y *Academic year* (Financial aid academic year used for year-to-date statistics)
- -s *Session* (Academic session)
- -y *Year* (Year)
- -L *site* (Site value)

Remove Course Statistics

Note: This menu option is available if the macro ENABLE_FEAT_CRS_STATS is set to Y.

Accesses: $CARSPATH/modules/regist/informers/rmcs (SQL script)

File: $CARSPATH/menuopt/regist/informers/rmcs

Parameters Passed:

- *Session*
- *Academic Year*
- *Catalog*

Display Course Statistics

Note: This menu option is available if the macro ENABLE_FEAT_CRS_STATS is set to Y.

Accesses: $CARSPATH/modules/regist/screens/cs (PERFORM screen)

File: $CARSPATH/menuopt/regist/screens/cs

Parameters Passed: None

Operator Form Request

Accesses: $CARSPATH/src/common/forment (Program)

File: $CARSPATH/menuopt/common/programs/fo.op

Parameters Passed:

- -s *session* (Indicates the session in which the processes are run)
- -y *year* (Indicates the year in which the processes are run)
- -p *program* (Indicates the program in which the processes are run)
- -L *sitecode* (Indicates the site in which the processes are run)

- -o (Indicates the operator mode, as opposed to the student mode)

Add Grade Report Recipient

Accesses: $CARSPATH/modules/regist/screens/grdsbscr (PERFORM screen)

File: $CARSPATH/menuopt/regist/screens/grdsbscr

Parameters Passed: None

Select Grade Report - One

Accesses: $CARSPATH/modules/regist/screens/grdctc (PERFORM screen)

File: $CARSPATH/menuopt/regist/screens/grdctc

Parameters Passed: None

Select Grade Report - All

Accesses: $CARSPATH/modules/regist/reports/ctcgrdrpt (ACE report)

File: $CARSPATH/menuopt/regist/reports/ctcgrdrpt

Parameters Passed:

- *Session*
- *Academic Year*
- *Program*
- *Subprogram*
- *Status*
- *Resource*
- *Site*

Select Grade Report - Course

Accesses: $CARSPATH/modules/regist/reports/ctcgrdclas (ACE report)

File: $CARSPATH/menuopt/regist/reports/ctcgrdclas

Parameters Passed:

- *Course Number*
- *Catalog*
- *Section*
- *Session*
- *Academic Year*
- *Program*
- *Subprogram*
- *Status*
- *Resource*

Select for Subsession

Accesses: $CARSPATH/modules/regist/reports/sugrdctc (ACE report)

File: $CARSPATH/menuopt/regist/reports/sugrdctc

Parameters Passed:

- *Session*
- *Subsession*
- *Academic Year*
- *Program*
- *Subprogram*
- *Status*
- *Resource*
- *Update*

Create Midterm Grades

Accesses: $CARSPATH/src/regist/grdrpt (Program)

File: $CARSPATH/menuopt/regist/programs/grdr.M

Parameters Passed:

- -p *prog* (Academic program)
- -s *sess* (Academic session to process)
- -y *year* (Academic year)
- -L *site* (Indicates the site in which the processes are run)
- -F *form* (Form code)
- -t *text* (Indicates up to 80 characters of a text message for the form)
- -t *text* (Indicates up to 80 characters of a text message for the form)
- -t *text* (Indicates up to 80 characters of a text message for the form)
- -t *text* (Indicates up to 80 characters of a text message for the form)
- -t *text* (Indicates up to 80 characters of a text message for the form)
- -m (Indicates midterm grades)

Create Final Grades

Accesses: $CARSPATH/src/regist/grdrpt (Program)

File: $CARSPATH/menuopt/regist/programs/grdr.F

Parameters Passed:

- -p *prog* (Academic program)
- -s *sess* (Academic session to process)
- -y *year* (Academic year)
- -t *text* (Indicates up to 80 characters of a text message for the form)
- -t *text* (Indicates up to 80 characters of a text message for the form)
- -t *text* (Indicates up to 80 characters of a text message for the form)

- -t *text* (Indicates up to 80 characters of a text message for the form)
- -t *text* (Indicates up to 80 characters of a text message for the form)
- -F *form* (Form code)
- -f (Indicates final grades)
- -L *site* (Indicates the site in which the processes are run)

Print Grade Reports/Lists

Note: This menu option is available if the macro ENABLE_FEAT_FPS is set to Y.

Accesses: $CARSPATH/src/util/fps (Utility)

File: $CARSPATH/menuopt/utilities/programs/fps.grdrpt

Parameters Passed: None

Grade Auditing

Note: This submenu is available if the macro ENABLE_FEAT_GRDAU is set to Y.

Scanning Menu

Note: This submenu is available if the macro ENABLE_FEAT_SCANNING is set to Y.

Grade Auditing Menu

Update Grade Audit

Accesses: $CARSPATH/modules/regist/scripts/grdauupd (Csh script)

File: $CARSPATH/menuopt/regist/scripts/grdauupd

Parameters Passed: None

Changes by Operator

Accesses: $CARSPATH/modules/regist/reports/grdauoper (ACE report)

File: $CARSPATH/menuopt/regist/reports/grdauoper

Parameters Passed:

- *Beginning Date*
- *Ending Date*
- *ID#*
- *Department*
- *Grade Changes*
- *New Page*

Changes by Student

Accesses: $CARSPATH/modules/regist/reports/grdaustu (ACE report)

File: $CARSPATH/menuopt/regist/reports/grdaustu

Parameters Passed:

- *Beginning Date*

- *Ending Date*
- *ID#*
- *Department*
- *Grade Changes*
- *Operator Responsible*
- *New Page*

Create Grade Change Mailers

Note: This menu option is available if the macro ENABLE_FEAT_GRDMAIL is set to Y.

Accesses: $CARSPATH/src/regist/grdmail (Program)

File: $CARSPATH/menuopt/regist/programs/grdmail

Parameters Passed:

- -f *form* (Form code for the form to use)
- -a *run code* (Alternate address run code. The default is GRDMAIL.)
- -I *adr id* (Alternate address ID. The default is zero.)
- -s *sort* (Sort order either by name or by ID. The default is by name.)
- -u (Space. This puts a one line space after each group of comments on the form.)

Print Grade Mailers

Accesses: $CARSPATH/src/util/fps (Utility)

Note: This menu option is available if the macro ENABLE_FEAT_FPS is set to Y.

File: $CARSPATH/menuopt/utilities/programs/fps.grdml

Parameters Passed: None

Grade Audit - Dropped

Accesses: $CARSPATH/modules/regist/reports/grdaurec (ACE report)

File: $CARSPATH/menuopt/regist/reports/grdaurec

Parameters Passed: None

Grade Audit – No CW

Accesses: $CARSPATH/modules/regist/reports/grdaunocw (ACE report)

File: $CARSPATH/menuopt/regist/reports/grdaunocw

Parameters Passed: None

Remove Invalid Grdau

Accesses: $CARSPATH/modules/regist/informers/grdaurm (SQL script)

File: $CARSPATH/menuopt/regist/informers/grdaurm

Parameters Passed: None

Registrar: Scanning Menu

Scan Lists – Midterm Grds

Accesses: $CARSPATH/src/regist/reglist (Program)

File: $CARSPATH/menuopt/regist/programs/regl.smg

Parameters Passed:

- -y *year* (Academic year)

Scan Lists – Final Grades

Accesses: $CARSPATH/src/regist/reglist (Program)

File: $CARSPATH/menuopt/regist/programs/regl.sfg

Parameters Passed:

- -y *year* (Academic year)
- -s *sess* (Academic session)
- -C *cat* (Catalog)
- -d *fsedate* (First date in section end date range)
- -e *lsedate* (Last date in section end date range)
- -F *form* (List form)
- -G *scantype* (Type of scanning form to use)

Final Scan – One Crs/Sec

Accesses: $CARSPATH/src/regist/reglist (Program)

File: $CARSPATH/menuopt/regist/programs/regl.sNS

Parameters Passed:

- -y *year* (Academic year)
- -s *sess* (Academic session)
- -u *subsess* (Academic subsession)
- -C *cat* (Catalog)
- -N *course* (Course number)
- -S *section* (Section)
- -F *form* (List form)
- -G *scantype* (Type of scanning form to use)

Print Scan Forms

Accesses: $CARSPATH/src/util/fps (Utility)

File: $CARSPATH/menuopt/utilities/programs/fps.scan

Parameters Passed: None

Scan Update

Accesses: $CARSPATH/src/regist/grdscan (Program)

File: $CARSPATH/menuopt/regist/programs/grdscan

Parameters Passed:

- -f *input file* (Input data filename)

Class Scan Report

Accesses: $CARSPATH/modules/regist/reports/classscan (ACE report)

File: $CARSPATH/menuopt/regist/reports/classscan

Parameters Passed:

- *Date*
- *Scan Type*

Class Scan Remove

Accesses: $CARSPATH/modules/regist/informers/rmclasslst (SQL script)

File: $CARSPATH/menuopt/regist/informers/rmclasslst

Parameters Passed:

- *Date*
- *Scan Type*

Registrar: Anonymous Grading Menu

Grade Entry

Accesses: $CARSPATH/src/regist/grading (Program)

File: $CARSPATH/menuopt/regist/programs/grdg.r

Parameters Passed:

- -r (Sort students by random number for anonymous grading)
- -C (Enable the calculate statistics option)

Generate Random Numbers

Accesses: $CARSPATH/src/regist/regrnd (Program)

File: $CARSPATH/menuopt/regist/programs/rnd.syp

Parameters Passed:

- -s *session* (Session)
- -y *year* (School year)
- -p *program* (Program)
- -L *site* (School site)

Random Number Entry

Accesses: $CARSPATH/modules/regist/screens/random (PERFORM screen)

File: $CARSPATH/menuopt/regist/screens/random

Parameters Passed: None

All Classes – All Sections

Note: This menu option is available if the macro ENABLE_FEAT_ACELIST is set to Y.

Accesses: $CARSPATH/modules/regist/others/clall (ACE report)

File: $CARSPATH/menuopt/regist/others/clall

Parameters Passed:

- *Session*
- *Subsession*
- *Academic Year*
- *Catalog*
- *Class*
- *Campus*
- *Division*
- *Department*
- *ID#*
- *Registered*
- *Graduated*
- *Grade*
- *Students*
- *Students*
- *Students*
- *Print*
- *Print*
- *Text Line 1*
- *Text Line 2*
- *Text Line 3*
- *Text Line 4*
- *Text Line 5*
- *Sort: Primary*
- *Sort: Secondary*
- *Sort: Student*

Selected Classes/Sections

Note: This menu option is available if the macro ENABLE_FEAT_ACELIST is set to Y.

Accesses: $CARSPATH/modules/regist/others/clone (ACE report)

File: $CARSPATH/menuopt/regist/others/clone

Parameters Passed:

- *Session*
- *Subsession*
- *Year*
- *Catalog*
- *Course Number*
- *Section*
- *Class*
- *Campus*
- *Registered*
- *Students*
- *Students*
- *Student*
- *Graduated*
- *Grade*
- *Print*
- *Print*
- *Text Line 1*
- *Text Line 2*
- *Text Line 3*
- *Text Line 4*
- *Text Line 5*
- *Sort Field*

Class Lists by Grade

Note: This menu option is available if the macro ENABLE_FEAT_ACELIST is set to Y.

Accesses: $CARSPATH/modules/regist/others/clgrd (ACE report)

File: $CARSPATH/menuopt/regist/others/clgrd

Parameters Passed:

- *Session*
- *Subsession*
- *Academic Year*
- *Catalog*
- *Class*
- *Campus*
- *Division*
- *Department*

- *ID#*
- *Grade*
- *Exclude*
- *Grade*
- *Students*
- *Graduated*
- *Withdrawn*
- *Underline*
- *Print*
- *Print All*
- *Text Line 1*
- *Text Line 2*
- *Text Line 3*
- *Text Line 4*
- *Text Line 5*
- *Sort: Primary*
- *Sort: Secondary*
- *Sort: Student*

All Class Lists

Accesses: $CARSPATH/src/regist/reglist (Program)

File: $CARSPATH/menuopt/regist/programs/regl.ac

Parameters Passed:

- -y *year* (Academic Year)
- -s *sess* (Academic Session)
- -C *cat* (Catalog)
- -f (Sort lists by faculty name)
- -a (Print courses without students)
- -F *form* (List form)
- -t *text* (Indicates up to 80 characters of a text message for the form)
- -t *text* (Indicates up to 80 characters of a text message for the form)
- -t *text* (Indicates up to 80 characters of a text message for the form)
- -t *text* (Indicates up to 80 characters of a text message for the form)
- -t *text* (Indicates up to 80 characters of a text message for the form)
- -r (Sort students by random number)
- -X (Sort students by course number for cross-listed class lists)

- -B (Print both confirmed and financially clear students)
- -I (Print only students with financial clearance)
- -R (Print only confirmed students)

Accelerated Degree: Grading Menu

Update Student Stat - Acc

Accesses: $CARSPATH/src/regist/trans (Program)

File: $CARSPATH/menuopt/regist/programs/trns.CuZ

Parameters Passed:

- -C (Include current session on transcript)
- -u (Update student statistics)
- -Y (Academic year)
- -L (Site value)
- -Z *deggrp* (Degree group)

Select Grade Report - Acc

Accesses: $CARSPATH/modules/regist/reports/adctcgrd (ACE report)

File: $CARSPATH/menuopt/regist/reports/adctcgrd

Parameters Passed:

- *Session*
- *Academic Year*
- *Program*
- *Degree Group*
- *Status*
- *Resource*
- *Course Number*
- *Update*

Create Final Grades - Acc

Accesses: $CARSPATH/src/regist/grdrpt (Program)

File: $CARSPATH/menuopt/regist/programs/grdr.FZ

Parameters Passed:

- -p *prog* (Program code)
- -s *sess* (Session code)
- -y *year* (Academic year)
- -Z *deggrp* (Degree group)
- -b *begdate* (Begin date)
- -e *enddate* (End date)

- -t *special text* (Special text to appear on the grade report)
- -t *special text* (Special text to appear on the grade report)
- -t *special text* (Special text to appear on the grade report)
- -t *special text* (Special text to appear on the grade report)
- -t *special text* (Special text to appear on the grade report)
- -F *form*
- -f (Use final grades)
- -L *site* (Site of students to process)

PERFORM (Table Maintenance) Screens

Introduction

Grading uses PERFORM screens for displaying maintenance tables and some records. You can access the screen files in the following directory path: $CARSPATH/modules/regist/screens.

PERFORM Screens

Grading uses the following PERFORM screens. Descriptions of PERFORM screens include:

- Purpose of the screen
- Tables and records used in the screen
- Master/detail relationships, if applicable

Anonymous Grading Random Number
Enables you to review random numbers assigned to individual students.

Menu Access: Registrar: Anonymous Grading menu: Random Number Entry menu option

File: random

Tables/Records Used:

- ctry_table
- id_rec
- prog_enr_rec
- prog_table
- st_table
- stu_acad_rec
- title_table

Course Statistics
Enables you to perform a query to look at course statistics by section, session and year, final and midterm grades, and grade.

Menu Access: Registrar: Grading menu: Display Course Statistics menu option.

File: cs

Tables/Records Used:

- cs_rec
- sess_table

Grade Report Contact/Contact
Enables you to select a grade report recipient.

Menu Access: Registrar: Grading menu: Select Grade Report – One menu option.

File: grdctc

Tables/Records Used:

- ctc_rec
- ctry_table

- id_rec
- st_table
- title_table

Individual Subscription/Subscription
Enables you to create a record (called a Subscription record) the system uses to create and print a grade report to be sent to someone other than the student.

Menu Access: Registrar: Grading menu: Add Grade Report Recipient menu option.

File: grdsbscr

Tables/Records Used:

- ctc_table
- ctry_table
- id_rec
- ofc_table
- sbscr_table
- st_table
- title_table

SQL Scripts

Introduction

The Grading product contains SQL scripts that perform queries and produce reports from database records. The scripts are located in the following directory path: $CARSPATH/modules/regist/informers

Note: Csh scripts can call ACE reports and SQL scripts. Such ACE reports and SQL scripts do not reside on the CX menu system.

SQL Scripts

Grading provides the following SQL scripts.

grdaurm
Initiates a process that deletes invalid records from the Grade Audit record (grdau_rec).

Menu Access: Grade Auditing menu: Remove Invalid Grdau menu option

Tables/Records Used:

- cw_rec
- grdau_rec

grdauupd
Used in conjunction with the grdaurpd Csh script.

Menu Access: Not applicable

Tables/Records Used:

- cw_rec
- grdau_rec
- sess_table

rmclasslst
Initiates a process that clears the database before rerunning the *reglist* program.

Menu Access: Registrar: Scanning menu: Class Scan Remove menu option

Tables/Records Used:

- classscan_rec
- stuscan_rec

rmcs
Initiates a process that removes Course Statistics records (cs_rec) for courses for which there are no students registered and no students on the wait lists.

Menu Access: Registrar: Grading menu: Remove Course Statistics menu option

Tables/Records Used:

- cs_rec
- sec_rec

Csh Scripts

Introduction

Grading contains Csh scripts to automate the processing of information. Csh scripts are UNIX-based program statements that can execute a series of SQL scripts or ACE reports. The Grading Csh scripts are located in the following directory path:
$CARSPATH/modules/regist/scripts

Csh Scripts

The following list associates a Grading menu option with the corresponding Csh script and provides a description of the script. Descriptions of Csh scripts include:

- Purpose of the script
- Menu access option, if applicable
- A list of ACE reports used, if applicable
- A list of SQL scripts used, if applicable
- A list of tables used, if applicable

grdauupd
Processes informer commands from the grdaupd ACE report to update the grdau_rec.

Menu Access: Grade Auditing menu: Update Grade Audit menu option.

Reports: A report that generates SQL output to update the grdau_rec.

SQL Scripts: None

Tables/Records Used: None

ACE Reports

Introduction

CX contains ACE reports for easy reporting of Grading database information. The ACE reports are grouped in the following categories:

- Grading
- Grade Auditing
- Scanning
- Anonymous Grading
- Accelerated Degree

Grading ACE Reports

The following lists the reports accessed from the Registrar: Grading menu. The reports are listed by the report titles, which appear at the beginning of the printed reports. In some instances, the report title is the same as the menu option you use to produce the report. Some reports listed do not appear on the CX menu system because they are used only in Csh scripts.

Class List for (session/year, course number, catalog)
Provides a list of students (who are registered for a specified session, year, and program) with a specified missing grade.

Menu Access: Registrar: Grading menu: Create Missing Grade List menu option

File: $CARSPATH/modules/regist/others/clgrd

Contacts for Grade Reports
Provides a list of contacts for grade reports.

Menu Access: Registrar: Grading menu: Select Grade Report - All menu option

File: $CARSPATH/modules/regist/reports/ctcgrdrpt

Contacts for Grade Reports – by Course
Provides a list of contacts for grade reports by course and section.

Menu Access: Registrar: Grading menu: Select Grade Report - Course menu option

File: $CARSPATH/modules/regist/reports/ctcgrdclas

Contacts for Grade Reports by Subsession
Provides a list of contacts for grade reports by subsession.

Menu Access: Registrar: Grading menu: Select for Subsession menu option

File: $CARSPATH/modules/regist/reports/sugrdctc

Report for Selected Grades
Provides a list of students who received a specific grade.

Menu Access: Registrar: Grading menu: Report by Grade menu option

File: $CARSPATH/modules/regist/reports/grdgrd

Ungraded Courses
Provides a list of courses that either are not graded or are only partially graded.

Menu Access: Registrar: Grading menu: Ungraded Courses menu option

File: $CARSPATH/modules/regist/reports/ungrdcrs

Grade Auditing ACE Reports

The following lists the reports accessed from the Grade Auditing menu. The reports are listed by the report titles, which appear at the beginning of the printed reports. In some instances, the report title is the same as the menu option you use to produce the report. Some reports listed do not appear on the CX menu system because they are used only in Csh scripts.

Grade Audit Records Existing For Dropped Courses
Provides a list of Grade Audit records linked to dropped courses.

Menu Access: Grade Auditing menu: Grade Audit - Dropped menu option

File: $CARSPATH/modules/regist/reports/grdaurec

Grade Audit Records Without Corresponding Cw Recs
Provides a list of Grade Audit records linked to missing Course Work records.

Menu Access: Grade Auditing menu: Grade Audit – No CW menu option

File: $CARSPATH/modules/regist/reports/grdaunocw

Grade Changes by Operator Who Made the Change
Provides a list of grade changes by the operator who made the change.

Menu Access: Grade Auditing menu: Changes by Operator menu option

File: $CARSPATH/modules/regist/reports/grdauoper

Grade Changes by Student
Provides a list of grade changes by student.

Menu Access: Grade Auditing menu: Changes by Student menu option

File: $CARSPATH/modules/regist/reports/grdaustu

Scanning ACE Reports

The following lists the reports accessed from the Registrar: Scanning menu. The reports are listed by the report titles, which appear at the beginning of the printed reports. In some instances, the report title is the same as the menu option you use to produce the report. Some reports listed do not appear on the CX menu system because they are used only in Csh scripts.

Scanable Classlists Check List
Provides a list of outstanding scanable class lists.

Menu Access: Registrar: Scanning menu: Class Scan Report menu option

File: $CARSPATH/modules/regist/reports/classscan

Anonymous Grading ACE Reports

The following lists the reports accessed from the Registrar: Anonymous Grading menu. The reports are listed by the report titles, which appear at the beginning of the printed reports. In some instances, the report title is the same as the menu option you use to produce the report. Some reports listed do not appear on the CX menu system because they are used only in Csh scripts.

Class List for (session/year, course number, catalog)
Provides a class list for all sections of all classes.

Menu Access: Registrar: Anonymous Grading menu: All Classes – All Sections menu option

File: $CARSPATH/modules/regist/others/clall

Class List for (session/year, course number, catalog)
Provides a class list you can use for grading or an anonymous class list you can use for anonymous grading.

Menu Access: Registrar: Anonymous Grading menu: Selected Classes/Sections menu option

File: $CARSPATH/modules/regist/others/clone

Class List for (session/year, course number, catalog)
Provides a class list you can use for grading or an anonymous class list you can use for anonymous grading. You can produce class lists of all classes with a particular grade, pattern of grades, only those classes that have been graded.

Menu Access: Registrar: Anonymous Grading menu: Class Lists by Grade menu option

File: $CARSPATH/modules/regist/others/clgrd

Accelerated Degree ACE Reports

The following lists the reports accessed from the Accelerated Degree: Grading menu. The reports are listed by the report titles, which appear at the beginning of the printed reports. In some instances, the report title is the same as the menu option you use to produce the report. Some reports listed do not appear on the CX menu system because they are used only in Csh scripts.

Contacts for Grade Reports
Provides a list of contacts for grade reports by degree group.

Menu Access: Accelerated Degree: Grading menu: Select Grade Report - Acc menu option

File: $CARSPATH/modules/regist/reports/adctcgrd

SECTION 15 – CUSTOMIZING THE GRADING PROCESSES

Overview

Introduction

This section provides procedures for setting up and installing the features of the Grading product. It includes procedures for the following processes:

- Assessing institutional needs for the module
- Reviewing and modifying data in tables and records
- Changing default values in macros

Basic Information

This section contains detailed procedures specific to the Grading product. For information on performing basic procedures, such as using the MAKE processor and reinstalling options, refer to the following resources:

- *Database Tools and General Utilities* course notebook (SYS200)
- *CX System Reference Technical Manual*

Implementation Process Checksheet

The *Implementation Process Checksheet: Grading and Transcript* shows the general phases in the process to customize and install features of Grading. The checksheet defines the tasks you must complete to install the module and the correct sequence for the tasks.

Use the procedures in this section to help you complete your implementation of Grading.

Cross-Functional Issues

Introduction

As you implement Grading, various policy issues will arise about which you must make decisions. However, in addition to issues affecting only the Registrar's office, there are other issues that involve various offices at an institution. The following are some of these issues, as well as helpful information you can use in deciding how to resolve each issue.

List Of Cross-Functional Issues

The following lists each cross-functional issue, as well as a description of each, that should be addressed while implementing Grading.

Use of course, section, and reference numbers
To ensure that the original intent of an institution's course numbering, section numbering, and reference numbering systems remain intact, answer the following questions:

- What is the size of the course number on your current system? What is the size of your section identifier?
- What are the institution's policy and procedure on reusing course numbers? How often are numbers reused? Why? Jenzabar, Inc. recommends that you minimize reusing course numbers because it affects the validity of repeat logic in these situations.
- Are section numbers or letters used? If so, is a meaning associated with them?
- Does the current system use a reference number for each course section? How is the reference number created?

Developing the annual processing calendar for catalog and schedule information
The Academic Calendar record (acad_cal_rec) must reflect dates of registration and grading. Therefore, all academic offices at an institution must understand and participate in developing the calendar used for schedule information. The Academic Calendar record also affects certain aspects of Admissions and Financial Aid.

Access to student records, course catalog, schedule, registration, grading, and transcript information by other offices at an institution
To ensure that individuals outside a particular office are able to access student records, answer the following questions:

Student records
Which office is responsible for creating student ID cards? Does the card include information from admitted students' files? How is the information produced?

Catalog and Schedule

- Is an individual other than the registrar responsible for publishing the printed course catalog? How is the master course inventory maintained?
- What information does the bookstore need for ordering books? How does the bookstore get the information it needs?
- Which offices need facility schedule information (e.g., Information Office, Campus Security, Physical Plant)?

Registration

- Which offices need student schedule information (e.g., Financial Aid office, Dean of Students, Information office, Campus Security, Emergency contact office)?

- Is an office other than the Registrar's office (e.g., Institutional Research office) responsible for reports such as enrollment and IPEDS?
- Is an office other than the Registrar's office responsible for or involved in facility assignment or reporting (e.g., Academic Dean, individual academic departments, Physical Plant office)?

Grading

- Do offices other than the Registrar's office maintain copies of class lists turned in by faculty?
- Which offices receive a copy of student grade reports (e.g., Academic Dean, individual academic departments, Dean of Students, Placement office)? How are the reports organized?
- Which offices are responsible for determining the dean's list? How do these offices get the information they need?
- Which offices determine which individuals are on probation or suspension? How do these offices get the information they need?
- How do the Financial Aid office and the office responsible for merit scholarships get the information by which they assess satisfactory academic progress?
- Where and how is progress determined for veterans and social security students?
- How are requests for term grade information by third-party payees handled?

Transcript

- Which offices expect to receive a transcript on a regular basis? On a student-by-student basis? By some other grouping of students? How are such records used?
- Which offices expect to access online academic history information? For what purpose?
- Are transcripts provided to another campus office ever sent off campus? For what purpose?
- Who determines whether a degree is to be conferred with honors? On the basis of what information?

Course and section fees
Although the Registrar's and Bursar's offices usually coordinate course and section fees, sometimes fees or charges are handled manually by individual academic departments. CX supports virtually any kind of fee or charge associated with a course or section, and Jenzabar, Inc. recommends an institution-wide review of such charges.

All course or section requisites that govern enrollment
To implement the automated requisite checking feature of CX, complete these tasks:

- Establish requisites for each course that has requisites.
- Review the relationships among multiple requisites as they appear in the course catalog (e.g., review "and" and "or" logic).
- Identify non-course requisites (e.g., test scores and grades) that CX tracks.

All faculty or administration approvals required for students to enroll in courses and sections
Students occasionally must obtain approval from a faculty member, department, or dean in order to register for a course or section, if the requirement is course- or student-based. CX can help

apply these requirements consistently. However, every office must completely understand the requirements so that the appropriate records can be created.

Decisions made during Course/Class Schedule implementations regarding student, Course, and Section records used in Registration
Review the decisions made and information entered in the Admissions and Course Class/Schedule applications regarding the following registration requisites to determine their effects elsewhere during registration:

- The academic status of registering students (e.g., admitted, continuing, or returning)
- The appropriate catalog and term for courses and sections

Responsibility (e.g., office or individual) for each of the registration and add/drop functions occurring in Jenzabar CX
The Registrar's office usually is responsible for registration and add/drop functions; however, some related registration processes often involve other offices. To improve the efficiency of the entire registration process and of the services provided to students, the offices involved in registration-related functions must do the following:

- Identify each registration-related function
- Identify who is responsible for each function
- Decide whether CX needs to be modified to accomplish each function

Chronological and physical dimensions of changes occurring with the Jenzabar CX registration process
Consider *when* and *where* registration is to occur. For example, if registration now occurs in an arena setting immediately before classes begin, the institution might consider one of these alternatives:

- Spread the process over time, resulting in fewer disruptions to institutional operations and lower personnel costs
- Decentralize data entry to individual academic departments, in order to link academic advising and course enrollment more closely
- Implement the Interactive Voice Response (IVR) telephone registration of CX, enabling a student to register at a time and location of their own convenience
- Implement Web Registration

Staffing of the Jenzabar CX registration process
Staffing considerations are significant when registration is centralized and occurs over a short period of time, whether the institution uses regular staff, temporary staff, or students. During implementation, assess efficient and cost-effective approaches to staffing during registration.

Holds management
CX enables an institution to replace manual, staff-intensive procedures for tracking academic and administrative holds with automated holds capability. During implementation, all departments at the institution should identify the following information:

- All possible holds
- Who is authorized to place or remove each type of hold
- The intended effect of each type of hold

  Note: Using CX, the institution can either decentralize or centralize hold functions (e.g., placing a hold, clearing a hold). In addition, the institution can label holds as either notation or absolute.

Identification, name, and address management

CX, because it is fully-integrated, is able to provide the following benefits to an institution regarding identification, name, and address management:

- Each individual or entity associated with the institution is assigned a single identification number
- The social security number, an optional element in CX, identifies an individual's or entity's record just as the ID number does
- CX can track prior names, salutation names, and names that reflect relationships between individuals or entities, and affords virtually unlimited capability for different addresses
- In resolving this cross-functional issue, the offices at an institution must ensure that the following tasks are completed:
  - Appropriate addresses are available when needed (e.g., billing, grade reporting, third-party)
  - Offices are assigned responsibility for ensuring that identification, name, and address information is available when needed, and that all offices are working cooperatively

Formatting standards (e.g., address conventions)
For consistent, professional-looking correspondence, reports, and lists, the offices at an institution must agree on the following:

- How names and addresses are to be formatted
- What the valid values are for various data elements in the system (e.g., the names and abbreviations for degrees conferred, names of academic departments, majors, etc.)

Use of records
Detail records, or collections of related information that are used as supplemental data about an individual or an entity associated with an institution, use space in CX only if data exists in a record. Some of the detail records available in the Registration application require coordination by several offices so that the information is usable by all offices that have access to the information contained in them. The following detail records are examples:

- Relationship detail records identify the ways in which individuals or entities associated with an institution are related (e.g., father/son, sister/brother, husband/wife, employer/employee). Because different offices might view these relationships differently and might use the information in unique ways, it is important to meet the needs of all offices.
- The Accomplishment, Education, and Exam common detail records are critical to the Transcript application because the information contained in these records appears on academic records and transcripts, provided that certain key data are entered. The institution must decide whether these records are reserved exclusively for the registrar and, if not reserved exclusively for the registrar, what the rules are for use by other offices.

Admissions and academic status coding
A single status table exists in CX to identify and track prospective students' admission statuses and enrolled students' academic statuses. However, there must be close coordination among the Admissions office, the Registrar's office, and the individual academic offices in order to identify the possible admission and academic statuses.

Determining completion of degree requirements and certifying degree completion
The offices involved in degree requirements or degree completion should organize the methods for determining when a student has met the requirements for a degree and for certifying that a

degree has been earned and/or conferred. The offices must understand how these processes work, because CX can support several ways to organize these processes.

> **Note:** The transcript forms (both official and unofficial) used in the Transcript application are very flexible regarding the information about degrees earned.

Transferring information from the Registrar's office to the Alumni Affairs office when a degree has been conferred (or at other times as appropriate)
CX electronically transfers information from the Registration application to the Alumni and Development application for individuals who have earned degrees. However, the Registrar's and Alumni and Development offices must agree on the following related issues:

- The definition of an alumnus
- The timing of the information transfer using CX
- The content of the information transfer using CX

Creating the Program Enrollment record from admissions information and accessing the Program Enrollment record for readmitted students
The Program Enrollment record is created when the Admissions office releases records of admitted students to the Registrar's office for registration; however, the Program Enrollment record must be created before a student can enroll in classes. The Admissions and Registrar's offices must resolve the following issues:

- When to create the records for both offices (because, once created, offices other than the Registrar's office are discouraged from accessing these records)
- Accessing the Program Enrollment records of former students who are being readmitted
- Updating the Program Enrollment record when a new Admissions record (adm_rec) is created, and the Program Enrollment record (prog_enr_rec) already exists

Assessing the Grading Setup

Introduction

CX provides several ways to implement the options of the Grading product. After assessing the needs of your institution, you can change the default settings of Grading enable macros and reinstall the product.

This section lists and describes the features that you must assess before you can modify the macros.

Grade Auditing

The Registration module default setup provides the Registrar: Grade Auditing menu, accessed from the Registrar: Grading menu, for auditing grades. If the institution does not want to have this option, you must change the setting of the macro, ENABLE_FEAT_GRDAU, from Y to N.

Scanning

The Registration module default setup provides the Registrar: Scanning menu, accessed from the Registrar: Grading menu, for scanning grades. If the institution does not want to have this option, you must change the setting of the macro, ENABLE_FEAT_SCANNING, from Y to N.

Anonymous Grading

The Registration module default setup provides the Registrar: Anonymous Grading menu, accessed from the Student Management: Registrar Main menu, for anonymous grades. If the institution does not want to have this option, you must change the setting of the macro, ENABLE_FEAT_ANON_GRDG, from Y to N.

Reviewing and Modifying Data in Tables and Records

Introduction

After assessing features of Grading and setting the appropriate enable macros, you must review the setup of CX tables and records.

Procedure

The following procedure provides the steps to review the values of CX tables and records.

1. For each Grading table, review the codes supplied with CX. Determine whether the codes meet the needs of your institution. Make updates as appropriate.
2. Review the institution's records converted from the previous Grading system. Determine whether the records need to be updated to meet the needs of the CX reports. Make updates as appropriate.

Table and Record Information

For more information about the tables and records in the Grading product, see the section *Grading Tables and Records* in this manual.

Important Grading Tables and Records

Although CX as delivered contains a set of table values that an institution can use to get started processing Grading information, you must review the following tables in this order to ensure that the setup is correct.

1. Grade table (grd_table)
2. Grading table (grdg_table)

Order of Table Information in This Section

Information about the setup of these tables appears in the following order in this manual:

- Tables that require modification appear first, in the order of implementation recommended by Jenzabar, Inc.
- Tables that do not require modification appear after the required tables, in alphabetical order

Table Setup Sequence

The following lists the sequence in which you should set up the Grading tables. Information about setting up each of the tables below follows in this section or in other technical manuals. Access the indicated Grading tables via the Registrar: Table Maintenance menu.

Note: For reference information about the tables listed below, see the *Grading Tables and Records* section in this manual.

1. Grading table (grdg_table)
2. Counting table (cntg_table)
3. Grade table (grd_table)
4. Grade Scan table (scangrd_table)
5. Grade Message table (grdmsg_table)

6. Grading Requirements table (grdgreq_table)
7. Transcript Form table (transfrm_table)

   Note: See the *Transcript Technical Manual* for information about this table.

8. Form Order table (formord_table)

   Note: See the *CX System Reference Technical Manual* for information about this table.

9. Transcript Comment record (trans_comm_rec)

   Note: See the *Transcript Technical Manual* for information about this table.

Building the Grading Tables

Introduction

The processes in the Grading product use the Grading tables to control data entry and to provide necessary information for processing of grading information. You must build these tables before performing any Grading processing and before building any other Grading tables.

Access

You access the Grading tables from the Registrar: Table Maintenance menu.

Grading Table [grdg_table]

The following lists the fields in the Grading table in the order in which you complete them. To access this table, select Grading/Repeat/Counting from the Table Maintenance: Registrar (F - L) menu.

Code [grd]
The code for the type of grading (e.g., LT for letter type) associated with one or more specific grades in the Grade table.

(Description) [txt]
This unlabeled field is located to the right of the Code field and contains text describing the code for the type of grading.

Print [prnt]
Either 1 (Yes) or 0 (No) indicating whether the description for the grading type code should appear on the transcript.

List [list]
Either 1 (Yes) or 0 (No) indicating whether this grading type code should be identified on the class list.

Entry [entry_grdg]
The code for the grading type (e.g., LT for letter type) used to define valid grade entry in the Web Grading application.

Counting Table [cntg]

The following lists the fields in the Counting table in the order in which you complete them. To access this table, select Grading/Repeat/Counting from the Table Maintenance: Registrar (F – L) menu.

Code [cntg]
Either E (Earned) or NE (Not Earned) indicating the code for the type of course hours to count for course statistics.

(Description) [txt]
This unlabeled field is located to the right of the Code field and contains text describing the code for the type of course hours to count for course statistics.

Print [prnt]
Either 1 (Yes) or 0 (No) indicating whether the description for the code indicating the type of course hours to count for course statistics should appear on the transcript.

Session: Attempt [att_fctr]
Either 1 (Yes) or 0 (No) indicating whether course hours should count toward attempted hours for the session.

Session: Earn [earn_fctr]

Either 1 (Yes) or 0 (No) indicating whether course hours should count toward earned hours for the session.

Session: Pass [pass_fctr]
Either 1 (Yes) or 0 (No) indicating whether to count course hours toward passed hours for the session. The pass should include all earned hours that do not affect the grade point average (GPA).

Session: Quality [qual_fctr]
Either 1 (Yes) or 0 (No) indicating whether to count course hours toward quality hours for the session.

> **Note:** Typically these courses are letter grade (LT) type with the letter grades of A, B, C, D, and F and may include plus or minus grades.

Session: Audit Incl [audit_fctr]
Either 1 (Yes) or 0 (No) indicating whether to include the course for degree audits.

Session: Audit Incl Hrs [audit_hrs_fctr]
Either 1 (Yes) or 0 (No) indicating whether to include the course hours for degree audits.

Cumulative: Attempt [cum_att_fctr]
Either 1 (Yes) or 0 (No) indicating whether to count course hours toward cumulative attempted hours.

Cumulative: Earn [cum_earn_fctr]
Either 1 (Yes) or 0 (No) indicating whether to count course hours toward cumulative earned hours.

Cumulative: Pass [cum_pass_fctr]
Either 1 (Yes) or 0 (No) indicating whether to count course hours toward cumulative passed hours.

Cumulative: Quality [cum_qual_fctr]
Either 1 (Yes) or 0 (No) indicating whether to count course hours toward cumulative quality hours.

Grade Table [grd_table]

The following lists the fields in the Grade table in the order in which you complete them. To access this table, select Grade from the Table Maintenance: Registrar (F - L) menu.

Grade Code [grd]
The code for this grade (e.g., IP).

(Grade Code Description) [txt]
This unlabeled field is located to the right of the Grade Code field and displays the description associated with the code in the Grade Code field (e.g., In Progress).

Grading Type [ctgry]
The type of grade associated with the Grade Code field (e.g., TR for Transfer Credit).

Notes:

- The default value is LT (for Letter Type).
- A blank grading type indicates that the grade can be applied to a course with any grading flag. Otherwise, the code for the grading type in the Course Work record will restrict grade entry to only those grades with the same grading type.

Assigned [instr_assgn]
Either Y (Yes) or N (No) indicating whether an instructor assigned this grade.

Note: The default value is Y (for Yes).

Minimum Hours [min_hrs]
The minimum number of hours needed to receive this grade (e.g., 3.0).

Note: If the number of hours is less than the minimum, the system assigns the alternate grade.

Alt Grade Code [alt_grd]
The alternate grade code for this grade if a student has not accumulated enough hours for the primary grade.

Alt Grade Type [alt_type]
The alternate type of grade associated with the Alt Grade Code field.

Web Update [web_upd]
Either Y (Yes) or N (No) indicating whether this grade may be changed in Web Grading.

Web Display [web_display]
Either Y (Yes) or N (No) indicating whether this grade is available in Web Grading.

Print [prnt]
Either 1 (Yes) or 0 (No) indicating whether the system is to print this grade on grade reports and transcripts.

Repeatable [rep]
Either Y (Yes) or N (No) indicating whether a student can repeat a course with this grade.

Note: The default value is Y (for Yes).

Value [val]
The value for this grade.

Notes:

- The system uses grade values in assigning the correct repeat flag to repeated courses where the better grade is the substitute for the grade with a lower value. Grades that are not to be considered for repeats and replacement should have a grade value of 0 (zero). All other grades should have non-zero values where the higher the value, the more the grade is worth. For example, a grade of F may be the institution's grade with lowest non-zero value, and any grade received for the same course will be the replacement grade. Grades of IP, NR, WD and possibly I and other W grades would have a grade value equal to 0 (zero).

- The Registration Entry program (*regent*) assigns a grade of IP to each course the student registers for so that progress can be monitored. The Grading program (*grading*) creates the NR default value for course sections the Grading program calls for students whose instructor assigned no grade. The system updates grades of IP to NR when the Grading program queries the class roster for entry of final grades. This update feature is enabled with the AUTO_GRD_UPD macro, and the IP and NR grades are defined via the NOT_GRADED and NO_GRADE_GIVEN macros, respectively.

Sort [sort]
A number indicating the sorting order for displaying and printing this grade when sorting is not alphabetical.

Note: This value must be unique within the grading type.

Incomplete
Is this a grade that can be updated after standard web grade entry?

Points [pts]
The point value (e.g., 3.666) to use for this grade when calculating the grade point average (GPA).

Comment [aucomm]
Either Y (Yes) or N (No) indicating whether to create a transcript comment for grade audits if this grade changes.

Requisite Check Grade [prereq_grd_chk]
Either Y (Yes) or N (No) indicating whether this grade is subject to a prerequisite minimum grade check.

Audit Check Grade [min_grd_chk]
Either Y (Yes) or N (No) indicating whether this grade is subject to a minimum grade check in Degree Audit.

Session: Attempt [att_fctr]
Either 1 (Yes) or 0 (No) indicating whether course hours should count toward attempted hours for the session.

Session: Earn [earn_fctr]
Either 1 (Yes) or 0 (No) indicating whether course hours should count toward earned hours for the session.

Session: Pass [pass_fctr]
Either 1 (Yes) or 0 (No) indicating whether to count course hours toward passed hours for the session. The pass should include all earned hours that do not affect the grade point average (GPA).

Session: Quality [qual_fctr]
Either 1 (Yes) or 0 (No) indicating whether to count course hours toward quality hours for the session.

> **Note:** Typically these courses are letter grade (LT) type with the letter grades of A, B, C, D, and F and may include plus or minus grades.

Session: Audit Incl [audit_fctr]
Either 1 (Yes) or 0 (No) indicating whether to include the course for degree audits.

Session: Audit Incl Hrs [audit_hrs_fctr]
Either 1 (Yes) or 0 (No) indicating whether to include the course hours for degree audits.

Cumulative: Attempt [cum_att_fctr]
Either 1 (Yes) or 0 (No) indicating whether to count course hours toward cumulative attempted hours.

Cumulative: Earn [cum_earn_fctr]
Either 1 (Yes) or 0 (No) indicating whether to count course hours toward cumulative earned hours.

Cumulative: Pass [cum_pass_fctr]
Either 1 (Yes) or 0 (No) indicating whether to count course hours toward cumulative passed hours.

Cumulative: Quality [cum_qual_fctr]
Either 1 (Yes) or 0 (No) indicating whether to count course hours toward cumulative quality hours.

Grade Scan Table [scangrd_table]

The following lists the fields in the Grade Scan table in the order in which you complete them. To access this table, select Scan Grade Table from the Table Maintenance: Registrar (R – S) menu.

Scan Value [scangrd]
The scan value that the system will read in from the Scantools data file (e.g., 1).

Grade [grd]
The grade value to be applied to the CX database (e.g., A).

Grading Type [ctgry]
The code for the type of grading (e.g., LT for letter type) if needed as a replacement for the cw_rec value. This field is used if the reported grade and the current grading type do not exist in the grd_table. Normally, this field is left blank.

Grade Message Table [grdmsg_table]

The following lists the fields in the Grade Message table in the order in which you complete them. To access this table, select Grade Mailer Messages from the SAP Tables menu under the Table Maintenance: Registrar (R - S) menu.

Message Code [grdmsg]
A code for the associated message (e.g., STUD).

Message [txt]
Text associated with the code in the Grade Message field (e.g., “You have achieved the highest possible honors this quarter.”)

Grading Requirements Table [grdg_table and grdgreq_table]

The following lists the fields in the Grading Requirements table in the order in which you complete them. To access this table, select Grading Requirement from the Table Maintenance: Registrar (F - L) menu.

Grade Type [grdg]
The code for the type of grading (e.g., PF for Pass/Fail).

> **Note:** This field is not updatable.

(Grade Type Description) [txt]
This unlabeled field is located to the right of the Grade Type field and contains text describing the code for the type of grading (e.g., Pass/Fail).

> **Note:** This field is not updatable.

Restricted [rstr]
Either Y (Yes) or N (No) indicating whether this grading type is restricted in its use.

Maximum Number Hours [max_no_hrs]
The maximum number of hours a student can take with this type of grade (e.g., 12.0).

Minimum Hours Value [min_hrs_val]
The minimum grade value of courses to include when determining the maximum number of hours a student can take with this type of grade (e.g., 10.0).

Maximum Number Courses [max_no_crs]
The maximum number of courses per session with this grading type (e.g., 1).

Table Name [file_name]
The name of the table associated with checking this grading type (e.g., stu_stat_rec).

Column Name [field_name]
The column name in the table associated with checking this grading type (e.g., cum_gpa).

Column Value [value]
The value this column must have to check this grading type (e.g., 2.00).

Operator [opr]
The relational operator to apply against the column value (e.g., >).

Setting Up the Grading Program

Introduction

The following information describes how to set up the Grading program (*grading*).

Setup Procedure

You can modify the following at compile time:

- Summary table
- Graduating student identifiers
- Non-graduating student identifiers
- Default grade codes
- Flags that determine the grading information fields

These values are located in $CARSPATH/include/custom/grading and summarized in the following information. After making any modifications and installing this file, do a make reinstall in the *grading* source directory, $CARSPATH/src/regist/grading.

The SUMGRADES value defines each of the grades to include in the Summary table. It is a comma-separated list of three-character strings. If the values are put on separate lines, use a backslash at the end of each line that has another value following it. When anyone enters or changes a grade, the system matches it against each of the values in the SUMGRADES list, character-by- character. You can use two special characters:

- An asterisk (*) for wildcard comparison to the end of the field
- A period (.) to allow blank ( ), plus (+), or minus (-) to occupy that character position

The NSUM value specifies the number of values in SUMGRADES and must match the number of values exactly.

The ISGRAD value defines the character identifying graduating students. You may change this to any one-character value. Identify non-graduating students by changing the NOTGRAD value.

The NOT_GRADED value identifies the grade code that is entered into the Course Work records at registration time. This is normally the In Progress grade (i.e., IP). If the AUTO_GRD_UPD compile option is set, *grading* will change all NOT_GRADED and blank values to the NO_GRADE_GIVEN value when selecting the students for a section.

The ALLOW_GRDG_UPDATE, ALLOW_METH_UPDATE, ALLOW_CNTG_UPD, and ALLOW_HRS_UPDATE compile options determine whether the grading type, grading method, counting flag, and course hours may be updated, respectively. All, none, or any combination of these options may be specified; however, if any are defined, the ALLOW_EXTRA_UPDATE compile option also must be defined. Otherwise, the ALLOW_EXTRA_UPDATE should not be defined.

Setting Up the Grade Report Program

Introduction

Grade reports are a printed record of a student's courses and statistics for a particular session and are suitable for sending as notices to students of their performance in that session. CX allows you to produce grade reports for an individual student, all students in a selected course and section, all students in a subsession, all students in an accelerated degree group, or all students in an entire classification.

Before you can create and print grade reports, several important conditions are required. Not only do grades have to be entered, but also the grade status of the student's Academic record must reflect the type of grades entered (midterm or final), students must be confirmed in classes, and the student's Academic and Student Statistics records must be updated through the Transcript program. Contact records must be created for students who are to receive grade reports, and then the grade reports can be created. The Forms Production System is used to send the grade reports to a printer.

The Jenzabar coordinator can modify the forms associated with the Grade Report program (*grdrpt*) to mirror the format needed to print the type of forms the institution uses. CX uses two forms to produce grade reports, one for midterm grades, and one for final grades. Use the following directory paths to locate the forms:

- $CARSPATH/regist/forms/grdrpt/midsess
- $CARSPATH/regist/forms/grdrpt/final

You can create grade reports in the following ways:

Note: See the *Grading User Guide* for information about how to create and print grade reports.

- Using the grade report form, you can create grade reports for the following:
  - All students
  - A specific session and year
  - A specific course and section
  - A degree group
- Using the Grade Report Contact/Contact screen, you can create grade reports for individual students.

Defining Attributes of a Grade

CX uses attributes of a grade to calculate GPAs, determine hours earned toward a degree, and accumulate the number of passed hours that count toward a degree but are not calculated in the GPA. Use the following three tables to define attributes of a grade:

- Counting table (cntg_table)
- Grade table (grd_table)
- Repeat table (rep_table)

You can assign the following attributes to a grade:

- Attempted
- Earned

- Pass
- Quality

A 1 (one) must be present in the field of each attribute that is to be included in the student statistics. You can mark these attributes differently for term and cumulative statistics.

Grade Report Options and Operands

When running *grdrpt*, there are several options that must be on the command line with their corresponding operands.

Note: You can review parameters for the Grade Report program in the section *Grade Report Program* in this technical manual.

The year, session, and FPS form filename options and operands always should be on the *grdrpt* command line. If creating midterm grade reports, use the "-m" option. If creating final grade reports, use the "-f" option. The first example that follows is for midterm grades, and the second example is for final grades:

Example: grdrpt -p UNDG -y 2000 -s SP -F midterm -m

Example: grdrpt -p UNDG -y 2000 -s SP -F final -f

If you want to use the Alternate Address feature, you must use the "-a" and optionally the "–i" parameters. The "-a" option is the alternate address run code value the system uses to determine the type of alternate addresses to print on the grade reports. To use specific kinds of names from the Addressee record (addree_rec), the system uses the "-i" parameter to pass the ADR user's ID number to the program.

Example: grdrpt -p UNDG -y 2000 -s SP -F final -f -a GRDRPT

Example: grdrpt -p UNDG -y 2000 -s SP -F final -f -a GRDRPT -i –99

Preparing for Midterm Grade Reports

Criteria for midterm grade reports vary from institution to institution. Some schools assign midterm grades to all students, some only to students who received midterm grades of D or F. Some schools do not use midterm grade reports.

Specifying Midterm Grades

Specify the parameter for the type of grades being entered through the *grading* program as M for midterm.

Updating Student Academic Grade Status

The system enters a stu_acad_rec.grd_stat of M as soon as the first midterm grade has been entered in *grading* for students who are to receive midterm grade reports or have midterm grades.

Note: Do not enter any final grades for a student (even for a different course) before the system creates midterm grade reports, because the system will update the grade status to F for final.

Updating Student Academic Registration Status

Each student who is to receive a midterm grade report should have a stu_acad_rec.reg_stat of C for confirmed. If the student does not have a C status, the Grade Report program will not select the student's records. In most cases, the stu_acad_rec.reg_stat will be C soon after the session begins because either someone ran an informer update or someone used *regent* to update the

status. If the statuses have not been updated prior to entering grades, you can run an SQL script similar to the following.

```
update stu_acad_rec
   reg_stat = “C”
   where reg_stat = “R”
   and sess = “FA  “
   and yr = 2000;
```

The client may want to have the SQL script created and placed on the menu as a menu option that can be executed whenever it is needed. This will depend on the procedures in the Registrar's Office for confirming student academic registration status.

Creating Contact Records

Each individual who is to receive a midterm grade report needs a Contact record. The contact tickler code should be REG and the contact resource code should be GRDRPT/M. You can create the Contact records in the desired order in which to print the grade reports. For additional information about selecting grade report recipients, see the section titled *Creating and Printing Grade Reports* in the *Grading User Guide*.

Creating Midterm Grade Reports

The system will create midterm grade reports for students who meet the criteria mentioned previously in the order in which the system created Contact records for them. See the *Grade Report Program* section in this technical manual for information about to how to use *grdrpt* to create the midterm grade report notices.

Printing Midterm Grade Reports

Schools can order special preprinted forms for grade reports. The standard size of the grade report is 80 columns by 22 lines, or 1/3 the length of 8-1/2 inch by 11 inch paper. However, you can modify the FPS form files for size or placement of fields on the form.

The Forms Production System (FPS) does the actual printing of the grade reports. The formtype to use is **grdrpt**.

Updating Contact Records

The *grdrpt* program automatically will update the Contact records the system uses in the grade report run and will change the contact status code from E to C and update the cmpl_date to “today”.

Preparing for Final Grade Reports

Before running *grdrpt* to create final grade reports using the options and operand example shown previously, verify the following conditions:

- **Student Academic Grade Status**. The stu_acad_rec.grd_stat for final grade reports is F for final. You can create informer updates and queries to verify that all students who have final grades for a particular session also have a stu_acad_rec.grd_stat of F.
- **Student Academic Registration Status**. All students who are to receive a final grade report also should have a stu_acad_rec.reg_stat of C for confirmed. Set this through either the *regist* program or an informer.
- **Updating Student Statistics**. Before creating final grade reports, run the Transcript program to update session and cumulative hours, points, and grade point averages.

After you verify the preceding conditions, you are ready to create final grade reports. You must use FPS to print the final grade reports.

Producing Grade Reports for Withdrawn Students

Introduction

The following information describes setup issues to produce grade reports for students who have completely withdrawn from all courses in an academic session. When setup correctly, you can create grade reports only for withdrawn students or for withdrawn, confirmed, and registered students all at the same time.

In addition to other procedures described in this section, further steps are required to ensure the efficient production of grade reports for withdrawn students. These steps include the preparation of a menu option macro and the modification of SQL Query scripts that create contacts for grade reports. Proper setup allows you to produce grade reports for only withdrawn students, or for withdrawn, confirmed, and registered students all at the same time.

Note: See the section *Selecting Grade Report Recipients* in the *Grading User Guide* for additional information about producing grade reports for withdrawn students.

Setup Issues

In order to produce grade reports for withdrawn students from the CX menu, you must be sure that the STUAC_STAT_REG_W macro located in $CARSPATH/macros/user/common is correctly defined.

The STUAC_STAT_REG_W macro should define three statuses: R for registered, C for confirmed, and W for withdrawn. This will allow grade reports to be produced for students with these academic statuses. This macro should be defined and set up using m4 in $CARSPATH/macros/user/common as follows:

```
STUAC_STAT_REG_W      R,C,W
```

When this macro is properly defined, you can use it in the following menu options: Select Grade Report - All (located in $CARSPATH/menuopt/regist/reports/ctcgrdrpt) and Select Grade Report - Course (located in $CARSPATH/menuopt/regist/reports/ctcgrdclas).

Setting Up the Mass Change Grades Program

Introduction

The following information describes how to set up the Mass Change Grades program (*chgrds*).

The Grading application uses the Mass Change Grades program to perform a massive grade change to grade values in the Course Work record (cw_rec). By specifying *from* and *to* grades and grade types in a specific program, session, and year, operators of this program can change large numbers of the same grade at one time. A runtime option allows you to create a report to identify the changes applied to the database that is sent to the user by e-mail.

Setup Procedure

You must set up all valid grade and grade type pairs in the Grade table, and all valid grade types must be in the Grading table prior to changing grades. The macros NOT_GRADED and NO_GRADE_GIVEN (located in $CARSPATH/include/custom/grading) define two special system grades (usually IP and NR) that usually are assigned by only the Registration and Grading programs. The *chgrds* program considers these grades special because these grades are valid for any grading type. For this reason, the grades that the NOT_GRADED and NO_GRADE_GIVEN macros define must be set up in the Grade table with blank grading types. The field used to designate grading types in the Grade table (grd_table) is the Grading Type field. The *chgrds* program uses the Grade table (grd_table) to determine whether the grades and grading types specified in the program parameters are valid combinations in the Grade table.

Specifying a Massive Change of Grades

To use the *chgrds* program, specify the grade and grade type you want to change, the new grade and grade type, and the academic program, academic session, and academic year in which the changes apply.

Sample Usage of the *chgrds* Program

Typically, *chgrds* is used to change all incomplete grades to a grade of F several months after a session has ended. For example:

Example: chgrds -F I -f LT -T F -t LT -p UNDG -s FA -y 2000 -r Y

This example would change the grade from I to F, without affecting grade type, in all Course Work records containing a grade type, program, session, and year of LT, UNDG, FA, and 2000, respectively. Additionally, the parameter "-r Y" would cause *chgrds* to mail a report of changed grades (i.e., the Mass Grade Change Report) to the user.

Report Output

When you run *chgrds*, you have the option of creating a report (i.e., the Mass Grade Change Report) to identify the student associated with each change made to the database. The system mails the report to the user and lists the student id, name, and course associated with each change. Access this reporting feature using the "-r" report option.

Grade Audit Processing in *chgrds*

If the Grade Audit features of the Registration module in CX are enabled when the *chgrds* program is run, the system will audit all grade changes this program made. This information will be recorded in the Grade Audit record in accordance with the Grade Audit features. For more information on the setup and use of the Grade Audit features, see *Setting Up Grade Audit* in this technical manual.

Program Completion Status

When the *chgrds* program finishes, it sends to the operator a mail message indicating its completion. The subject of the mail message and its contents will reflect the nature of the completion. The mail messages will appear under one or more of the following subjects:

1. CHGRDS finished successfully
2. CHGRDS finished with errors
3. CHGRDS exited abnormally

If *chgrds* completes successfully, or with errors, the mail message will include the number of student records it updated.

If *chgrds* completes with errors or exits abnormally, the mail message will contain a description of the error(s). For example, *chgrds* will complete with errors if the program tries to apply a grade change to a student's record that is locked by another user.

Setting Up Grade Audit

Introduction

The Grade Audit process of the Registration module audits changes made to values that affect grade point averages (GPA) of students. The Grade Audit process contains features it uses to track and report grade-related changes made through the Mass Change Grades (*chgrds*), Grade Scanning (*grdscan*), Grading (*grading*), Registration Entry (*regent*), Transcript (*trans*), and Grade Batch (*grdbatch*) programs. The Grade Audit process audits changes made to certain fields in the Course Work record (cw_rec) and then adds and updates grade audit information in the Grade Audit record (grdau_rec).

Grade Audit enables you to produce reports containing a list of grade change information. These reports sort the information either by student or by operator. You can use the Grade Audit process to create grade change mailers with comments about grade change information. Also, you can use the Grade Audit process to create transcript comments describing the change(s) that created a Grade Audit record.

Programs That Access Grade Audit

The following programs access the Grade Audit functions, which are defined in the Libreg source code library, to add, delete, and display Grade Audit information:

- Grade Batch (*grdbatch*)
- Grade Mailer (*grdmail*)
- Grade Scanning (*grdscan*)
- Grading (*grading*)
- Mass Change Grades (*chgrds*)
- Registration Entry (*regent*)
- Transcript (*trans*)

CAUTION: Only the preceding programs should maintain data in the Grade Audit record (grdau_rec). Using the Grade Audit record in this manner ensures the integrity of the Grade Audit information. Do not add, delete, or update records in the Grade Audit record or Course Work record through any other means, including the direct use of PERFORM or SQL commands.

The following information defines the functions of Grade Audit in various programs, including Libreg, Mass Change Grades, Grade Scanning, Grading, Registration Entry, Transcript, and Grade Mailer.

Registration Library

The Registration Library (Libreg) contains all of the functions related to Grade Audit processing, including the auditing function, the Grade Audit History window, and the function to create the grade change mailer. The screen for the Grade Audit History window is located in $CARSPATH/modules/regist/progscr/Libreg/grdau. The form for the grade change mailer is located in $CARSPATH/regist/forms/Libreg/grdmail.

Mass Change Grades

Grade Audit tracks all changes the Mass Change Grades program (*chgrds*) makes to Grade codes and Grading Type codes.

Grade Scanning

Grade Audit tracks all changes the Grade Scanning program (*grdscan*) makes to Grade codes and Grading Type codes.

Grading

Grade Audit tracks all changes the Grading program (*grading*) makes to Grade code, Grading Type code, Counting code, or Course Hours values. Operators of the Grading program can see a history of each student's grade changes. If changes have been made to a student's GPA-related fields, an operator can access a grade audit history for that student by accessing the Grade Entry screen and selecting Grade audit history from the Options pop-up window while in Update mode.

Selecting Grade audit history from the Options pop-up window while in Update mode causes a pop-up window to display a student's grade-related changes. Scrolling is provided with this pop-up window so an operator can examine all grade-related change messages for a particular student.

Grade Batch

Grade Audit tracks all changes the Grade Batch program (*grdbatch*) makes to Grade code values.

Registration Entry

Grade Audit tracks all changes the Registration Entry program (*regent*) makes to Grade code, Grading Type code, Counting code, or Course Hours values.

The Registration Entry program accesses Grade Audit when a student withdraws from a course. If a student withdraws from a course, the Grade and Grading Type codes in the student's Course Work record usually are changed to "withdrawn" values. For example, the Grade code may be changed to W, and the Grading Type code may be changed to WF. The Grade Audit processes will track changes made to the Grade code and Grading Type code in this manner.

The Registration Entry program also accesses the Grade Audit features when the Hours, Grading Type, or Counting values are changed in the Course Enrollment Detail window. An operator can access this detail window while in Register mode by selecting Enrollment Detail from the Course Information menu. If the operator has valid permissions, the operator may change information in the Hours, Grading, and/or Counting fields on this screen. If changes are made to these fields, the Grade Audit processes will audit them.

If a student drops a course and the Registration Entry program assigns a Course Work Status (stat) of D (Dropped) to the corresponding Course Work record (cw_rec), Grade Audit automatically removes from the database all Grade Audit information related to the student for the course. Likewise, if an operator uses the Void command in the Registration Entry program to void any or all of a student's courses, Grade Audit automatically removes from the database all Grade Audit information related to the student for the voided courses. Grade Audit removes information in these circumstances so that the Grade Mailer program and Grade Audit reports will not produce or report information for a student's dropped or removed courses.

You can use two other reports and an SQL Query script to maintain the Grade Audit record.

The Registration Entry program does not display any messages or comments regarding grade-related changes. The Grade Audit History window is not available through this program.

Transcript

In the Transcript program (*trans*), the Counting flag, Grade code, Grading Type, and Course Hours all can be changed for a particular student's course work. Grade Audit creates a Grade Audit record (grdau_rec) for each change the Transcript program makes to these values.

Operators of the Transcript program can access a history of GPA-related changes for students. To access the history, the operator first must execute the Transcript program in Edit mode. The operator then can see the history by pressing **<Ctrl-g>** when the cursor rests on a course with a history of GPA-related changes for a student.

The Transcript Form Table (transfrm_table) governs the display of Grade Audit change messages on transcript forms. The "_comm" fields in this table contain the names of the screens that the Transcript program uses to display Grade Audit change messages on transcript forms. If certain Grade Audit transcript comments should not appear on certain transcript forms, then the corresponding _comm fields for such comments should be left blank.

Note: If an operator uses the Edit mode of the Transcript program to remove any Grade Audit transcript comments, Grade Audit deletes those comments from the Transcript Comment record (trans_comm_rec). The Grade Audit process cannot re-create deleted transcript comments; therefore, operators of the Transcript program should not remove Grade Audit transcript comments unless the institution does not need or does not use the Grade Audit transcript comments.

Grade Mailer

The Grade Mailer program (*grdmail*) produces forms that can be sent to students to notify them of changes made to any information that affects their GPA. These changes include any changes in Grade codes, Grading codes, Counting codes, or Course Hours values of the Course Work record. The Grade Mailer program creates grade change mailers for Grade Audit records (grdau_rec) that have a NULL date in the inform_date field. After Grade Mailer processes each Grade Audit record with a NULL inform_date, the process fills the inform_date field with the current system date.

Some Grade code change comments may not appear on grade change mailers. Any Grade codes changed from grades that have an N in the corresponding aucomm field in the Grade table (grd_table) will not appear on grade change mailers. For example, *system* Grade code changes such as IP to NR will not appear on grade change mailers if the aucomm field for the IP grade is set to N.

Grade Audit Reports

Grade Audit provides the following reports:

- Grade Changes by Student
  - Displays Grade Audit changes for each student sorted by student
  - Located in $CARSPATH/modules/regist/reports/grdaustu
- Grade Changes by Operator Who Made the Change
  - Displays Grade Audit changes for each student sorted by the operator who made the change(s)
  - Located in $CARSPATH/modules/regist/reports/grdauoper

You can access these reports from the Grade Auditing menu. The menu options for these reports are Changes by Student and Changes by Operator. The reports can sort by student, by operator who made the changes, and/or by the department that made the changes. The reports also can restrict the printing of certain Grade code changes. That is, Grade code changes that

did not result in Grade Audit creating transcript comments can be excluded from the Grade Audit reports. For example, a *system* Grade code change from IP to NR would not result in Grade Audit creating a transcript comment. You can specify whether the reports should include Grade code changes of this kind.

Note: Before you can run the Grade Audit ACE reports to list GPA-related information, you must run a script that updates special report-oriented fields in the Grade Audit record (grdau_rec). You can access this script by selecting Update Grade Audit from the Grade Auditing menu. You must run this script each time before you run the ACE reports for Grade Audit.

Fields Grade Audit Tracks

The following information explains what fields Grade Audit tracks and how the Grade Audit process works.

Course Work Record Audits

The Grade Audit process audits changes made to certain fields in the Course Work record (cw_rec). The fields and their descriptions associated with grade values affecting a student's GPA appear in the following list:

Note: The Grade Audit process does not audit changes to the Repeat code field (rep) in the Course Work record (cw_rec).

cntg (Counting Code)
A value indicating whether the course is for earned course credit (e.g., E for Earned).

grd (Grade Code)
The grade currently assigned to the course (e.g., A).

grdg (Grading Type)
A code for the type of grading assigned to the course (e.g., LT for Letter).

hrs (Course Hours)
The number of credit hours assigned to the course (e.g., 3.0).

Grade Audit Record

When one or more values in the cntg (Counting Code), grd (Grade Code), grdg (Grading Type), or hrs (Course Hours) fields of the Course Work record (cw_rec) change through the Mass Change Grades (*chgrds*), Grade Scanning (*grdscan*), Grading (*grading*), Registration Entry (*regent*), or Transcript (*trans*) programs, the Grade Audit process creates a Grade Audit record (grdau_rec) to store information about the change(s). Values in the cntg, grd, grdg, and hrs fields of the Course Work record are values that affect grade point averages of students. The Grade Audit record stores the following change information:

- The values before the change was made
- The system ID of the person who made the change
- The date and time when the change was made
- The date when the student was notified of the change

If a Grade Audit record already exists, the Grade Audit process adds to and updates information to it. The Grade Audit process updates information when you use the Update Grade Audit menu option from the Grade Auditing menu.

The following lists and describes the fields of the Grade Audit record:

cntg (Counting code)

The previous counting code (i.e., the counting code before the most recent change).

cw_no (Course Work Number)
The link between the Grade Audit record and the Course Work record.

grd (Grade code)
The previous grade code (i.e., the grade code before the most recent change).

grdg (Grading code)
The previous grading type (i.e., the code for the grading type before the most recent change).

grdau_no (Grade Audit Number)
The unique serial number to link to the Transcript Comment record (trans_comm_rec).

hrs (Course Hours)
The previous course hours (i.e., the course hours before the most recent change).

inform_date (Inform Date)
The date when the Grade Change Mailer process informed the student of the change.

new_cntg (New Counting code)
The new counting code (i.e., the counting code after the most recent change).

new_grd (New Grade code)
The new grade code (i.e., the grade code after the most recent change).

new_grdg (New Grading code)
The new grading type code (i.e., the code for the grading type after the most recent change).

new_hrs (New Course Hours)
The new course hours (i.e., the course hours after the most recent change).

rep_date (Report date)
The date (mm/dd/yyyy) when the system updated the new values.

uid (User ID)
The identification number of the user who made the change.

upd_date (Update Date)
The date (mm/dd/yyyy) of the update.

upd_tm (Update Time)
The time of the update (e.g., 1446).

user_id (User ID)
The identification number of the person making the grade change.

Transcript Comment Creation

When the Grade Audit process creates a Grade Audit record, the same process might create a transcript comment, which describes the change. For example, a Grade code change from B to A might result in a comment similar to the following:

```
"Grade changed from 'B' to 'A' on 5/15/2000."
```

The Grade Audit process stores transcript comments it creates in the Transcript Comment record (trans_comm_rec). The Grade Audit process always creates transcript comments for changes to codes in the following fields:

- Counting code (cntg)
- Grading Type code (grdg)
- Credit Hours (hrs)

Comment creation might not occur for changes to the Grade field (grd). The Grade Audit process determines whether to create transcript comments for changes to the Grade field in the following ways:

- If the grade code being changed has a Y in the Comment (aucomm) field in the Grade Table (grd_table), the Grade Audit process creates a transcript comment to describe the change to the current grd value.
- If the grade code being changed does not have a Y value in the aucomm field, the Grade Audit process does not create a transcript comment for the change.
- If the grade code being changed does not have a Y value in the aucomm field, but a grade code that did have a Y in the aucomm field previously was changed for a student, the Grade Audit process does create a transcript comment.

Example: A Grade code changes from IP, (which the system, through the Registration Entry program (*regent*), might assign to newly added courses) to NR, (which the system, through the Grading program, might assign to courses). Since the system assigns the NR Grade code, the Grade Audit process should not create a comment for the change from IP to NR. Therefore, the Comment (aucomm) field for the IP and NR Grade codes should be set to N to indicate that the Grade Audit process should not create comments for changes from these Grade code values to other Grade code values. Assuming that the NR Grade code has an aucomm value of N, comment creation would not occur for a change from NR to any other Grade code (e.g., A).

Notes:

- The Grade Audit process always creates Grade Audit records for all changes even if the process does not create transcript comments for the changes.
- If any comments are created for any GPA-related changes (including changes in the Grade code, Counting code, Grading Type code, or Credit Hours), the Grade Audit process sets the Informed Date field (inform_date) of the grdau_rec to a NULL date.
- If no comments are created for any GPA-related changes, or if the setup for the Grade Mailer program restricts certain Grade Audit change comments from appearing on grade change mailers, the Grade Audit process sets the inform_date field to the current system date.
- The Grade Audit process uses the inform_date to determine whether the process should create a grade change mailer for a student. The Grade Mailer program will create grade change mailers for Grade Audit records with a NULL inform_date. When the Grade Mailer program is run, the program sets the inform_date field for the affected Grade Audit records to the current date. The Grade Mailer program skips any non-NULL dates it encounters in the Grade Audit record.
- Grade Audit reports are available and can display Grade Audit information in a variety of ways. The reports can sort Grade Audit information by student, by the operator who made the change, or by department.

Grade Audit Setup

Implementation of Grade Audit features includes the following areas:

- Macro setup (i.e., enabling or turning on the Grade Audit features)
  - m4 Macros
  - Comment Text Macros

- Comment Official Flag Macros
- Comment Grade Change Mailer Macros
- Miscellaneous Grade Change Mailer Macros

- Table setup
  - Grade table
  - Transcript Form Table
  - Transcript Comment record
- Grade Audit History window customization
- Grade Change Mailer customization
- Report customization
- Maintenance reports
- Installation

The following information describes how to implement each of these areas.

Macro Setup

Perform the following steps to enable the Grade Audit features according to your institution's preferences:

1. Set the m4 macro, ENABLE_FEAT_GRDAU (located in $CARSPATH/macros/custom/student) to Y. This enables (i.e., turns on) the Grade Audit features of the Registration module.
2. Does the institution intend to use the Grade Mailer program (*grdmail*) to produce grade change mailers to notify students of GPA-related changes?

   Note: The ENABLE_FEAT_GRDMAIL macro also is located in the following directory path: $CARSPATH/macros/custom/student

   - If yes, set the ENABLE_FEAT_GRDMAIL macro to Y.
   - If no, set the ENABLE_FEAT_GRDMAIL macro to N.

   You set the macro in accordance with the institution's policy regarding grade change mailers.
3. Continue with the following setup issues according to your institution's preferences.
   - Comment Text macros
   - Comment Official Flag macros
   - Comment Grade Change Mailer macros
   - Miscellaneous Grade Change Mailer macros

Comment Text Macro Setup

The comment text macros define the texts that the Grade Audit process uses to create comments for transcripts, grade change mailers, and the Grade Audit History window. These "_TEXT" macros are located in $CARSPATH/macros/custom/student. If the default or current definitions of the _TEXT macros are not in accordance with your institution's preferences, you can modify the _TEXT macros according to your institution's guidelines.

The following describes the comment text macros.

GRDAU_COUNTING_TEXT
Defines the text for Counting code changes.

GRDAU_GRADE_TEXT
Defines the text for Grade code changes.

GRDAU_GRADING_TEXT
Defines the text for Grading Type code changes.

GRDAU_HOURS_TEXT
Defines the text for Course Hours value changes.

Note: These comments always should remain defined, as they are the basis for all the Grade Audit comments that the Grade Audit process creates, including Grade Audit comments for transcripts, grade change mailers, and the Grade Audit History window.

The comment text macros use key words to represent values that Grade Audit uses to create comments with correct information. The Grade Audit process expands these key words as it creates Grade Audit change comments for GPA-related changes. When you define Comment Text macros, you can arrange the key words in any order within the macro definitions. The following lists the key words available for the comment text macros:

GRDAU_DATE
Expands to the date the change was made.

GRDAU_NEW_CNTG
Expands to the new Counting code value.

GRDAU_NEW_GRDG
Expands to the new Grading Type code value.

GRDAU_NEW_GRD
Expands to the new Grade code value.

GRDAU_NEW_HRS
Expands to the new Course Hours value.

GRDAU_OLD_CNTG
Expands to the old Counting code value.

GRDAU_OLD_GRDG
Expands to the old Grading Type code value.

GRDAU_OLD_GRD
Expands to the old Grade code value.

GRDAU_OLD_HRS
Expands to the old Course Hours value.

Examples of Comment Text Macros

When you define the _TEXT macros, you can arrange these key words in any order within the _TEXT macros definitions. This flexibility allows you to customize the _TEXT macros in accordance with your institution's preferences. The following provides two examples of _TEXT definitions and the comment texts they would produce:

Example: `m4_define(`GRDAU_GRADE_TEXT', `Grade changed from GRDAU_OLD_GRD to GRDAU_NEW_GRD on GRDAU_DATE.')'

The preceding definition would produce the following comment text when a Grade code changes from a "B" to an "A" on 1/20/2000: "Grade changed from 'B' to 'A' on 1/20/2000."

Example: `m4_define(`GRDAU_HOURS_TEXT', `GRDAU_DATE--Hours changed from GRDAU_OLD_HRS to GRDAU_NEW_HRS.')'

The preceding definition would produce the following comment text when the Hours value for a course changes from 3.00 to 4.00 on 1/20/2000: "1/20/2000 Hours changed from '3.00' to '4.00'."

Note: If an operator uses the Edit mode of the Transcript program to remove Grade Audit transcript comments that the Grade Audit process had created previously, the Grade Audit process deletes the Grade Audit transcript comments from the Transcript Comment record (trans_comm_rec). The Grade Audit process cannot re-create deleted transcript comments; therefore, operators at an institution should not delete Grade Audit transcript comments unless the institution does not need or does not use the Grade Audit transcript comments in question.

Comment Official Flag Macros Setup

The Comment Official Flag macros contain the default values for the Official field (ofcl) on the Transcript Comment record (trans_comm_rec). When the Grade Audit process creates a Transcript Comment record for a GPA-related change, it also updates the ofcl field with the value of the corresponding "_OFCL" macro.

The Official field (ofcl) on the Transcript Comment record contains a Y or N value for each comment in the Transcript Comment record. A value of Y indicates that the corresponding comment should appear on both official and unofficial transcripts. A value of N indicates that the corresponding comment should appear on only unofficial transcripts.

When a change comment is added to the trans_comm_rec, two actions occur:

- First, the system enters into the ofcl field in the trans_comm_rec the Y/N value in the _OFCL macro that corresponds to the Grade Audit change comment.
- Second, the system assigns to the comm_code field in the trans_comm_rec a code value corresponding to the type of Grade Change comment being added.

If the default or current values of the _OFCL macros are not in accordance with your institution's policy, assign the appropriate Y or N value to each of the _OFCL macros. Setting any of these macros to Y causes the corresponding Grade Audit comment to print on both official and unofficial transcripts. Setting any of these macros to N causes the corresponding Grade Audit comment to print on only unofficial transcripts. The following lists and describes the Comment Official Flag Macros:

GRDAU_COUNTING_OFCL
Either Y (Yes) or N (No) indicating whether the Official flag for Counting code change is set.

GRDAU_GRADE_OFCL
Either Y (Yes) or N (No) indicating whether the Official flag for Grade code change is set.

GRDAU_GRADING_OFCL
Either Y (Yes) or N (No) indicating whether the Official flag for Grading Type code change is set.

GRDAU_HOURS_OFCL
Either Y (Yes) or N (No) indicating whether the Official flag for Course Hours value change is set.

Note: For a more detailed explanation of the function of the ofcl field, refer to the *Transcript User Guide.*

Comment Grade Change Mailer Macros Setup

The comment grade change mailer macros determine which Grade Audit change comments will appear on grade change mailers. These "_GRDMAIL" macros are located in

$CARSPATH/macros/custom/student, and they contain a Y or N value indicating whether to include the corresponding _TEXT macro on grade change mailers.

If the default or current definitions of the _GRDMAIL macros are not in accordance with your institution's preferences, you can modify the _GRDMAIL macros according to your institution's guidelines. Setting any of these macros to Y causes the Grade Audit process to include the corresponding Grade Audit change comment on grade change mailers. Setting any of these macros to N causes the Grade Audit process to omit the corresponding Grade Audit change comment from grade change mailers. The following lists and describes the Comment Grade Change Mailer macros.

GRDAU_COUNTING_GRDMAIL
Either Y (Yes) or N (No) indicating whether Counting code change comments will appear on grade change mailers.

GRDAU_GRADE_GRDMAIL
Either Y (Yes) or N (No) indicating whether Grade code change comments will appear on grade change mailers.

GRDAU_GRADING_GRDMAIL
Either Y (Yes) or N (No) indicating whether Grading Type code change comments will appear on grade change mailers.

GRDAU_HOURS_GRDMAIL
Either Y (Yes) or N (No) indicating whether Course Hours change comments will appear on grade change mailers.

Miscellaneous Grade Change Mailer Macros

You also can set three other Grade Mailer program macros to customize grade change mailers. They are located in $CARSPATH/macros/custom/student. If the default or current definitions of these macros are not in accordance with your institution's preferences, you can modify them according to your institution's guidelines.

The following lists and describes these macros.

GRDAU_MAIL_SORT
A value indicating whether the Grade Mailer program will sort grade change mailers by student name or student ID. NAME and ID are valid values for this macro.

GRDAU_MAIL_TRANSFER
Defines the text that should appear in the Course field on the grade change mailers when the Grade Mailer program processes a transfer course.

GRDAU_MAIL_NONCAT
Defines the text that should appear in the Course field on the grade change mailers when the Grade Mailer program processes a noncatalog course.

Note: The GRDAU_MAIL_TRANSFER and GRDAU_MAIL_NONCAT macros contain the texts that should appear in the Course field on grade change mailers when the Grade Mailer program processes transfer or noncatalog courses for a student. These macros are designed to reduce confusion students might experience if they were to see transfer and noncatalog course names listed on their grade change mailers.

Table Setup for Grade Audit

The following tables and record might require setup and/or modification for Grade Audit:

- Grade table (grd_table)
- Transcript Form Table (transfrm_table)

- Transcript Comment record (trans_comm_rec)

Grade Table Setup

The Grade Audit process uses the Comment field (aucomm) in the Grade table (grd_table) to determine whether to add comments to the Transcript Comment record (trans_comm_rec) for changes to Grade codes. When Grade Audit is enabled, the Comment field displays on the Grade Table (grd_table) screen, which is a PERFORM screen.

If the default or current values of the aucomm field in the grd_table are not defined in accordance with the institution's policy, assign the appropriate Y or N value to the aucomm value for each Grade code in the grd_table. The values indicate the following:

- An aucomm value of Y indicates that the Grade Audit process should create a comment for Grade code changes when the associated Grade code changes
- A value of N in this field indicates that the Grade Audit process should not create a comment for Grade code changes when the associated Grade code changes

The Grade Audit process creates a Grade Audit record (grdau_rec) each time an operator makes a change to a Grade code. Even though a record is added to the database, a change in a Grade code may or may not result in the creation of change comments that will appear on transcripts and grade change mailers. For example, certain Grade code changes (such as when the system changes an IP Grade to an NR Grade) do not require the Grade Audit process to produce change comments that would be printed on transcripts or grade change mailers. The aucomm field in the grd_table contains a Y/N value to indicate whether a change from the current Grade code to another Grade code requires the creation of a Grade code change comment. The following shows an example of a Grade Table setup.

Example: Grade (grd) = IP and Create Comment (aucomm)=N

Example: Grade (grd)=NR and Create Comment (aucomm)=N

Example: Grade (grd)=W and Create Comment (aucomm)=Y

Example: Grade (grd)=A and Create Comment (aucomm)=Y

Example: Grade (grd)=C and Create Comment (aucomm)=Y

According to this setup, a change from IP to another Grade code would not cause the Grade Audit process to create a Grade code change comment even though it would add a Grade Audit record (grdau_rec). However, a change from the W Grade code to another Grade code would cause the Grade Audit process to create a Grade code change comment.

Note: Only the aucomm field in the grd_tble determines whether the Grade Audit process creates a comment for a Grade code change. However, the Grade Audit process always will create and add comments to the trans_comm_rec for changes made to Grading Type codes, Counting codes, and Course Hours values.

Transcript Form Table Setup

In order to have Grade Audit transcript comments appear on transcript forms, you must use the Transcript Form Table (transfrm_table) screen to enter screen names into the corresponding Grade Audit Comments fields.

You can update the "_comm" fields in the Transcript Form Table screen, which contains a field for each type of comment that can appear on transcript forms. Enter the appropriate screen name used for comments into each field used for User Comments and Grade Audit Comments on the Transcript Form Table. When Grade Audit is enabled, the area of the Transcript Form Table for comments contain five different fields. When Grade Audit is not enabled, the areas of the Transcript Form Table for comments contain only one field, the User Comments field.

To access Grade Audit transcript comments on transcript forms, you must update the _comm fields in the Transcript Form Table (transfrm_table) with the names of the screens used to create transcript comments related to Grade Audit.

For each change comment that should appear on transcript forms, the corresponding _comm field in the transfrm_table should contain the name of a screen that displays that kind of comment on forms that the Transcript program produces. For each change comment that should not appear on transcript forms, the corresponding _comm field in the transfrm_table should be left blank. For example, if change comments for changes in Grade codes should appear on transcripts, then the grd_comm field in the transfrm_table must contain a screen name that displays Grade code change comments on transcript forms. If however, change comments for changes in Grade codes should not appear on transcripts, the grd_comm field should be left blank.

If your institution does not enable Grade Audit, only the user_comm field is used for comment production on transcript forms. The other _comm fields are ignored when the Grade Audit features are disabled.

The following lists and describes the fields in the Transcript Form Table that contain screen names the Transcript program uses to create transcript comments related to Grade Audit. The screen names enable you to print different types of comments on forms that the Transcript program produces.

cntg_comm (Counting Change)
The name of the screen for the Transcript program to use to print comments for counting code changes (e.g., grdcomment).

grd_comm (Grade Change)
The name of the screen for the Transcript program to use to print comments for grade code changes (e.g., grdaucomm).

grdg_comm (Grading Change)
The name of the screen for the Transcript program to use to print comments for grading code changes (e.g., grdaucomm).

hrs_comm (Hours Change)
The name of the screen for the Transcript program to use to print comments for hours code changes (e.g., grdaucomm).

user_comm (User)
The name of the screen for the Transcript program to use to print comments for users (e.g., comment).

Screens used for comments on transcript forms are located in the following directory path: $CARSPATH/modules/regist/progscr/trans. The screen, grdaucomm, is located in this directory and can be used to display Grade Audit comments on transcript forms. You may want to modify this comment screen to satisfy your institution's requirements.

You may leave blank any or all of the fields on the Grade Audit Comments portion of the Transcript Form Table screen. Grade Audit comments will not appear on transcript forms if you leave blank their corresponding fields in the Grade Audit Comments portion of the Transcript Form Table. You can use the same screen name for all comments, including those in the Grade Audit Comments and User Comments portions of the Transcript Form Table screen; however, you are not required to enter the same screen name in each of the fields.

Transcript Comment Record

The comm_code field in the Transcript Comment record (trans_comm_rec) contains a code value, which indicates the type of comment stored in each record in the Transcript Comment record. The following lists all of the comm_code values and describes the kind of comment associated with each.

C
Indicates a text comment for a counting code change.

G
Indicates a text comment for a grade code change.

H
Indicates a text comment for an hours change.

R
Indicates a text comment for a grading type code change.

U
Indicates a text comment for a user transcript.

Note: The Grade Audit Reference field (grdau_ref) in the Transcript Comment record (trans_comm_rec) links the Transcript Comment record to the Grade Audit record (grdau_rec). The grdau_ref field contains the unique serial number of the Grade Audit record, which corresponds to the current Transcript Comment record.

Grade Audit History Window Customization

You can customize the Grade Audit History window according to the institution's needs. The Grade Audit History window is located in the following directory path: $CARSPATH/modules/regist/progscr/Libreg/grdau.

The Grade Audit History window contains comment lines to display the comments created for each Grade Audit record. The Grade Audit History window uses data from the following records:

- Grade Audit record (grdau_rec)
- ID record (id_rec)
- Course Work record (cw_rec)
- Transcript Comment record (trans_comm_rec)

Users can access the Grade Audit History window through the Grading (*grading*) and Transcript (*trans*) programs to view the following information:

- In the Grading program, the grade change history for the selected student for the current course appears in the Grade Audit History window
- In the Transcript program, the grade change history for the selected course for the current student appears in the Grade Audit History window

Grade Change Mailer Customization

You may need to customize the grade change mailer according to the needs of the institution. The form for the grade change mailer is located in the following directory path: $CARSPATH/modules/regist/forms/Libreg/grdmail. The grade change mailer uses data from the following records:

- Academic record (stu_acad_rec)
- Course Work record (cw_rec)
- Grade Audit record (grdau_rec)
- Program Enrollment record (prog_enr_rec)
- Student Statistics record (stu_stat_rec)
- Transcript Comment record (trans_comm_rec)

The ADR Library functions process name and address information for the form.

The following lists and describes the fields on the grade change mailer.

cwid (ID Number)
The identification number associated with this course work.

name1 (Name)
The student name consisting of the name1 field.

> **Note:** If you want more name fields, add the fields "name2" and "name3" to the form section definition.

addr[0-5] (Address)
The group of student address fields.

> **Note:** This group consists of the following fields: addr0, addr1, addr2, addr3, addr4, and addr5 fields. If you want fewer address fields, delete the unwanted address fields from the form definition section.

crs_scroll (Course Number)
The field group consisting of crs1 through crs24 fields contains the crs_no of the listed course.

cat_scroll (Catalog)
The field group consisting of ct1 through ct24 fields contains the catalog field of the listed course.

sess_scroll (Session)
The field group consisting of se1 through se24 fields contains the session of the listed course.

yr_scroll (Year)
The field group consisting of yr1 through yr24 fields contains the year of the listed course.

comm_scroll (Comment)
The field group consisting of comment1 through comment24 fields contains the trans_comm_rec remark associated with the listed student course.

acst
The academic status.

cumstats
Cumulative statistics including:

- att
- earn
- pass
- qual
- pts
- gpa

In addition to these fields, any field value from the prog_enr_rec, stu_acad_rec, and stu_stat_rec.

Grade Change Mailer Processing

The Grade Mailer program (*grdmail*) uses the grade change mailer to process a Forms Production System (FPS) file of GPA-related changes in Grade Audit records that also have a NULL date in the Inform Date field (inform_date). As the Grade Mailer program processes each of these Grade Audit records, it changes the NULL date value in the inform_date field to the system date. The Grade Mailer program skips Grade Audit records with a non-NULL date as the inform_date.

Report Customization for Grade Audit

After you implement Grade Audit, you can access all information related to GPA changes on ACE reports. The system contains two general Grade Audit reports, which you can customize to meet the needs of your institution. The system contains two other ACE reports to maintain the Grade Audit record and do not require any local customization. You can access these reports from the Grade Auditing menu.

Before you can run the ACE reports to list GPA-related information in Grade Audit, you must run a script that updates special report-oriented fields in the Grade Audit record (grdau_rec). (The fields this script updates in the Grade Audit record are the "new_" fields.) Select the Update Grade Audit menu option from the Grade Auditing menu to run the script. This script does not require modification. The following lists and describes the ACE reports in Grade Audit:

Note: See the *Grading User Guide* for additional information about these reports.

grdauoper
This report (i.e., Grade Changes by Operator Who Made the Change) displays GPA-related changes sorted by the identification number of the operator who made the change and is located in the following directory path: $CARSPATH/modules/regist/reports/grdauoper.

grdaustu
This report (i.e., Grade Changes by Student) displays GPA-related changes sorted by the student with the GPA-related changes and is located in the following directory path: $CARSPATH/modules/regist/reports/grdaustu.

grdaurec
This report (i.e., Grade Audit Records Existing For Dropped Courses) lists any Grade Audit records that are linked to Course Work records with a Dropped status and is located in the following directory path: $CARSPATH/modules/regist/reports/grdaurec.

Note: This ACE report is only for Grade Audit record maintenance.

grdaunocw
This report (i.e., Grade Audit Records Without Corresponding Cw Recs) lists any Grade Audit records that are linked to Course Work records that do not exist and is located in the following directory path: $CARSPATH/modules/regist/reports/grdaunocw.

Note: This ACE report is only for Grade Audit record maintenance.

Grade Audit Maintenance Reports

You should periodically run the grdaurec and grdaunocw maintenance reports to ensure that no invalid Grade Audit records exist. The system considers Grade Audit records invalid when they are linked to Course Work records that do not exist or that have a Course Work Status (cw_stat) of D (for Dropped). Although the Grade Audit process normally removes all Grade Audit records linked to such Course Work records, locking problems occurring in the Registration Entry (*regent*) or Transcript programs (*trans*) could prevent the removal of the Grade Audit records. When such locking problems occur, run the maintenance reports to list any invalid Grade Audit records.

You can remove invalid records using the SQL script, grdaurm, which you access from the Grade Auditing menu by selecting the Remove Invalid Grdau menu option.

CAUTION: Run the grdaurm script only when no other processes (including *grading*, *regist*, *trans*, etc.) that access the Grade Audit record are running.

Note: Refer to the INFORMIX user manual, section entitled *ACE Relational Report Writer* for more information on the syntax of ACE reports.

Grade Audit Installation

When you implement Grade Audit for the first time or change one of the macros that the Grade Audit processes use, do the following:

1. Access the $CARSPATH/macros/custom directory path, and enter **make reinstall F=student**
2. Access the $CARSPATH/macros/user directory path, and enter **make reinstall F=inc**
3. Access the $CARSPATH/include/util directory path, and enter **make reinstall F=libreg**
4. Access the $CARSPATH/modules/regist directory path, and enter **make reinstall F=ALL**

   Note: Perform this step after you customize the program screens for the Transcript program, the Grade Audit History window, and the grade change mailer.
5. Access the $CARSPATH/src/Libapp/Libreg directory path and enter **make cleanup reinstall**
6. Access the $CARSPATH/src/regist directory path, and enter **make REINSTALL F=ALL**

   Note: Perform a "REINSTALL" instead of "reinstall" so that the screens in the SCR subdirectories also are reinstalled.
7. Access the $CARSPATH/menuopt/regist directory path, and enter **make reinstall F=ALL**
8. Access the $CARSPATH/menusrc/student/regist directory path, and enter **make subs T=reinstall**

   Note: You also should reinstall all other menuscr directories that use any regist modules (e.g., $CARSPATH/menusrc/student/finaid/recmaint).

Scanning Grades

Introduction

CX includes features that enable you to scan grades when using the Grading application. The Registration List program (*reglist*) creates scan lists for a scanning application. The Registration List program uses the FPS utility to print student and related class information from the scan lists onto NCS scan forms. The setup to scan grades uses a third party product called Scantools to control NCS scanning equipment and produce a data file for processing on the Jenzabar host. The setup uses the Grade Scanning (*grdscan*) program to post grades to the CX database.

Process Description

The grade scanning process has five primary phases:

1. Creating scan lists for a scanning application using the Registration List program (*reglist*).
2. Printing the scan lists on scan forms using the FPS utility.
3. Scanning the scan forms using NCS scanning equipment and Scantools software.

   Note: The client is responsible for setting up and maintaining the third party software this phase uses.
4. Copying and transferring the Scantools output file from the PC to the host computer.

   Note: The client is responsible for setting up and maintaining the third party software this phase uses.
5. Processing the scan input file.

Setting Up to Create Scan Lists

The *reglist* program, which is normally used to produce class lists, has the ability to print scan lists when you assign reference numbers that are unique within year and session to all sections of a course.

Note: See the *Registration List Program* section in this technical manual for information about the *reglist* program parameters.

The system creates an FPS output file when the *reglist* program creates the scan list. When the *reglist* program creates the scan list, it adds a special grid of pre-slugged characters to the FPS output, which is called a scan form. The system usually places this grid at the top of the scan form. The *reglist* program pre-slugs the grid with a binary pattern representing a unique number the system creates. CX uses this number to identify each page that the *reglist* program creates.

On the rest of the scan form (the part that the instructor normally fills in with grades), the *reglist* program also creates a pre-slugged character on each line that the instructor does not complete. This occurs when a student already has a grade and when the system places the pre-slugged character below the last student on the scan form.

As the *reglist* program creates the FPS output file (scan form) for a scanning application, it also creates database records that maintain essential information about what appears on each page of the scan form. These database records are the Class Scan record (classscan_rec) and the Student Scan record (stuscan_rec). Later, the *grdscan* program uses these records to interpret the scan form after the third party software scans it.

For each page the *reglist* program creates, it creates a classscan_rec. The *reglist* program fills the following fields in the classscan_rec with its associated information:

classscan_no

A unique serial number the system creates to identify the classscan_rec. It is also the pre-slugged binary number at the top of the form the system uses to uniquely identify the page and scan list.

yr
The year associated with this classscan_rec.

sess
The session associated with this classscan_rec.

ref_no
The reference number identifying the class associated with this classscan_rec.

Note: The yr, sess, and ref_no fields make up a key to uniquely identify the scan list.

add_date
The creation date of this classscan_rec.

cmpl_date
The date the scanned information was posted to the database.

scan_type
The type of scanning application the user specified to run *reglist*.

Note: The values for the scan_type come from the macros SCAN_TYPE_FINAL_GRADE and SCAN_TYPE_MID_GRADE in $CARSPATH/macros/custom/student.

num_stu
The number of students represented on the page.

Note: This number also identifies the number of stuscan_rec's attached to the classscan_rec.

The *reglist* program creates a stuscan_rec for every student printed on the scan form. The *reglist* program fills the following fields in this record with its associated information:

classscan_no
A unique serial number the system creates to identify the classscan_rec and, thus, the scan form.

print_ord
A number identifying the order in which the *reglist* program printed the student on the scan form.

cw_no
A number identifying the student's Course Work record (cw_rec) for the associated class.

Rerunning *reglist* for a Section

If it is necessary to create a scan list for a section a second time, *reglist* deletes the classscan_recs and stuscan_recs associated with that section and creates new classscan_recs and stuscan_recs with new serial numbers. Also, *reglist* will create a warning message.

Printing the Scan List

When the *reglist* program finishes, an FPS input file is the result. The FPS utility then processes this FPS input file to create class lists printed on scan forms (i.e., scan lists). The FPS utility allows initial alignment of the paper to accommodate the preprinted scan form.

Setting Data Transfer Requirements

CX scanning software was developed around Scantools, a third party software package used to scan forms. Scantools is a DOS-based software package; therefore, CX expects to receive an input file in a DOS format (i.e., each record terminated by a carriage return and a line feed).

Grading uses the following macro values to define the configuration of the Scantools file the CX scanning process expects:

'SCAN_REC_HEADER_FLG', 'Y'

'SCAN_REC_HEADER_LEN', '40'

'SCAN_REC_FORM_ID_FLD_OFFSET', '40'

'SCAN_REC_FORM_ID_FLD_LEN', '13'

`SCAN_REC_GRADES_FLD_OFFSET', `53'

`SCAN_REC_GRADES_FLD_LEN', `50'

If you choose to have header information in the file, set the header flag to Y and specify the header length and the ID field offset appropriate to the size of the header you are using. In this case, the system uses "ID" for the serial ID corresponding to the physical form that the system automatically creates and pre-slugs.

The system uses the preceding values when parsing the Scantools input file. In the preceding standard values, there is a 40-character header, a 13-character identification field, and 50 characters for grade information (only one character per grade is allowed). The length of the identifier at 13 cannot be modified without a minor modification in the source code.

Note: Do not include the "\" in the following example. The "\" is used to indicate that the entire example should be typed on a single line.

Example: 600000001001061292001Y 3225 #0001 \

721913323601155539959553993229511552521111594500000000000000000 \

600000002001061292001Y 3225 #0001 \

721913262601193199199300000000000000000000000000000000000000000 \

600000003001061292001Y 3225 #0001 \

721913263401161195700000000000000000000000000000000000000000000

The serial number on the first line is 7219133236011. Numbers beginning with: "5553995…" represent the grades.

Whatever method the client chooses to transfer data from the PC to the Jenzabar host system, it should transfer the data without modification (i.e., it should perform a binary transfer).

Processing the Scantools Output File

Once the file that Scantools (NCS software) produces transfers to the Jenzabar host system, the Grade Scanning program (*grdscan*) processes it. The user specifies the name of the input file when running *grdscan*. The *grdscan* program interprets the data and updates the appropriate Course Work (cw_rec) and Academic (stu_acad_rec) records. The *grdscan* program assigns the grade to the student's cw_rec for the course and scan type specified when the class list was created.

The Grade Scanning program (*grdscan*) could affect the following fields in the Course Work record (cw_rec):

grd
The student's final grade.

Note: The *grdscan* program updates this field if the scan type specified when *reglist* ran was final as defined by the macro SCAN_TYPE_FINAL_GRD.

midsess_grd
The student's midterm grade.

Note: The *grdscan* program updates this field if the scan type specified when *reglist* ran was midterm as defined by the macro SCAN_TYPE_MIDTERM_GRD.

grdg
The grading type.

Note: The *grdscan* program updates this field if the grade being reported is inconsistent with the current grading type (i.e., the grade and grading type are not found in combination in the grd_table) and a non-blank alternate grading type is specified in the ctgry field of the scangrd_table.

rawgrd
The raw grade.

Note: The *grdscan* program updates this field to the same value as the grd field in order to be consistent with the Grading and Web Grading applications.

The Grade Scanning program (*grdscan*) updates the following field in the Academic record (stu_acad_rec):

grd_stat
The *grdscan* program sets the grade status to the first letter of the scan type specified when the class list was created (e.g., M or F).

The following three tables and records are involved in the processing of the Grade Scanning program (*grdscan*):

- scangrd_table
- classscan_rec
- stuscan_rec

The Grade Scan table (scangrd_table) provides the necessary mapping of the scanned value reported by Scantools, to the actual grade stored in the CX database. The system uses it to link a grade and a grade type in CX to the character value given in the uploaded ASCII file. It is a table-based PC interface tool. The Jenzabar coordinator is responsible for setting up the scangrd_table with appropriate values for the client site. The following three fields are in the table:

scangrd
The scanned value that Scantools reports (e.g., 1, 2, 3, etc.).

Note: A PC package from NCS Corporation accomplishes grade scanning. Individual institutions are responsible for designing their own PC-based package to perform the scanning. The scan value in this field represents the value that CX receives from the PC package.

grd
The associated grade (e.g., A) to be stored in the Course Work record (cw_rec).

ctgry
The associated alternate grading type (e.g., WD for withdrawn). The *grdscan* program stores the associated alternate grading type in the cw_rec if the grade reported and the current grading type in the cw_rec cannot be found in combination in the Grade table (grd_table).

Note: Normally, you leave this field blank to prevent giving a grade of the wrong type to a student (e.g., a letter grade of A given to a student who is only auditing a class).

Sample Test File

When an instructor enters grades on the scan form, the instructor marks the grades that appear on the pre-fabricated form to the right of the student's name. There are ten positions for grades on the scan form. The first position, 0, corresponds either to no student for that line or else a grade already is assigned. The instructor should not have to fill this position because the *reglist* program pre-slugs it accordingly. However, positions 1 – 9 are for grade assignments, and it is these positions that the instructor must fill in.

The next step is the processing of the marked form by the Scantools software. This results in the ASCII scan input file

The following is a sample test file created on the scanning hardware when you feed scan forms into it. You must download this file to the mainframe host where the *grdscan* program can process it.

Note: Do not include the "\" in the following example. The "\" is used to indicate that the entire example should be typed on a single line.

Example: 600000001001062592001Y 3225 #0001 \

0000000000531323410000000000000000000000000000000000000000000000000000 \

0000

The "#0001" part is the physical order form number (i.e., the number of the form that is in the total number of scan forms for this course). For example, ENG111 may have five scan forms (about 250 students since each scan form will hold up to 50 students), and each form would have a unique classscan number (e.g., 531, 532, 533, 534, 535), and the scan forms would be physically numbered in order (e.g., 1, 2, 3, 4, 5). You *must* read in the scan forms for each class according to this physical order or else the process becomes muddled.

The classscan number (e.g., 531, or the number preceded by many zeroes following the form #), is a unique serial number that links to the classscan_rec and the stuscan_rec. This number begins at position 41 and ends at position 53 in the data stream.

The numbers that follow are the grades. From position 54 through the last position represents the grades for the students on the scan form. Each digit represents the grade for a student. For example, after the classscan_no (531) the first five students have grades (3, 2, 3, 4, 1). The zeroes represent either there is no student or a grade already has been assigned for that student.

In this example, position 53 has a "3" in it. When the *grdscan* program processes this file, the first student in the list (represented by position 53), will receive the grade corresponding to a "3" in the scangrd_table.scangrd field. In the scangrd_table, a 3 = C, so the first student in the list receives a C in the cw_rec.grd field.

The *grdscan* program knows whose cw_rec to update by reviewing the stuscan_recs that the *reglist* program created earlier. The stuscan_rec contains the classscan_no, the cw_no of each student on the form, and where each student is located on the scan form. For the first student who received a C, there is a stuscan_rec containing the following information:

- the classscan number of the form (531)
- the number indicating the order in which the student appears on the form (1)

- the course work number of the student (501xxxx)

The *grdscan* program finds the cw_rec by using the cw_no that corresponds to the first student on the scan form as represented by position #53 in the data stream.

Setting Up Anonymous Grading

Introduction

CX provides the Anonymous Grading method for anonymous grading, an alternative to the traditional method of reporting grades. To reduce the possibility of grading bias, the Anonymous Grading method randomly assigns a number to a student and then assigns grades to the student via the random number.

Note: Law schools with professional programs commonly use the anonymous grading method.

Anonymous Grading Method

The basic components of the anonymous grading method include the following:

- Generating random numbers for the students through a Jenzabar process
- Communicating the random numbers to the students
- Providing anonymous class lists to the instructors that contain the random numbers rather than the standard data for each student (e.g., name, ID, social security number)
- Entering grades in a grade entry screen according to the numbers on the anonymous class lists
- Matching the random numbers to the students and adding the grades to the students' courses
- Routine grade processing, relative to the following:
  - Updating course and student statistics
  - Creating grade reports for students
  - Printing grade reports

Special Notes

There are two types of class lists you can choose from during implementation setup:

- Regular class lists (using either an ACE report or the *reglist* program)
- Anonymous class lists (using an ACE report)

You can produce regular class lists with an ACE report or the *reglist* program. To use the *reglist* program to produce class lists, you must set to N the ENABLE_FEAT_ACELIST macro found in the $CARSPATH/macros/custom/student file.

You can produce anonymous class lists only through the use of an ACE report.

How To Set Up Anonymous Grading

When setting up Anonymous Grading, you must do the following:

- Set the macros that apply to anonymous grading
- Add all anonymous grading users to the reglaw group so they can produce anonymous class lists

The following lists and describes how to set up the macros that apply to anonymous grading. Unless otherwise specified, the macros are located in the following directory path: $CARSPATH/macros/custom/student.

m4_define ('ENABLE_FEAT_ANON_GRDG', 'N')
To enable Anonymous Grading, set the macro to Y, then reinstall the product. The macro adds an Anonymous Grading menu selection on the Registrar: Main Menu, which accesses a menu of anonymous grading options.

Note: The macro is set to N in the standard product to disable Anonymous Grading.

m4_define('RANDOM_STUAC', 'Y')

- Set the macro to Y if the institution wants to store the random number in the Academic record (stu_acad_rec) on a session basis. (The numbers may not be unique between sessions.)
- Set the macro to N if the institution wants to store the random number in the Program Enrollment record (prog_enr_rec) on a student basis.

m4_define('RANDOM_UNIQUE', 'Y')

- Set the macro to Y if the institution wants to store random numbers in either the Academic record or the Program Enrollment record. Setting the macro to Y assigns unique random numbers to all students, regardless of their program.
- Set the macro to N if the institution wants to have unique numbers assigned only on a program basis (e.g., a student in one program may have the same number as a student in a different program).

m4_define('RANDOM_MINIMUM', '1000')
Set the macro to the lowest allowable random number. The program assigns the number specified when you run the menu option to create the numbers for registered students.

m4_define('RANDOM_MAXIMUM', '9999')
Set the macro to the highest allowable random number. The program assigns the number specified when you run the menu option to create the numbers for registered students.

m4_define('REP_RANDOM_FIELD','stu_acad_rec.rnd random')
Set the macro to the same record as the RANDOM_STUAC macro indicates. Both macros should be set either to the Academic record or the Program Enrollment record.

Note: The macro is located in the $CARSPATH/macros/custom/sturpt directory path.

SECTION 16 – GRADING MAINTENANCE PROCEDURES

Overview

Introduction

This section provides procedures you need to maintain the Grading product, including:

- how to ensure functionality of the *grading* program
- how to ensure that all potential grades have been entered to the Grade and Grading tables
- how to ensure that people who will be entering grades have appropriate permissions

The maintenance procedures are organized in three groups in this section:

- Annual
- Session-based
- Ongoing

Notes:

- The Grade Audit record (grdau_rec) always maintains data, which is not just annual or session-based.
- You should periodically run the grdaurec and grdaunocw maintenance reports to ensure that no invalid Grade Audit records exist. See the *Grading User Guide* for additional information about these reports.
- The client is responsible for maintaining third party software used to scan grades each session.

Definitions

The following defines the three types of maintenance procedures that you must perform in order to keep your database accurate and CX functioning properly.

Annual
You must perform these procedures annually.

Session-based
You must perform these procedures at the beginning, middle, or end of each session.

Ongoing
You must perform these procedures on an ongoing basis.

Process

This list shows the general phases for maintaining Grading. It identifies the order in which you should perform the maintenance procedures included in this section.

1. Perform session-based maintenance procedures.
    - Maintain the Academic Calendar
    - Update macros
2. Perform annual maintenance procedures.
    - Update macros

3. Perform ongoing maintenance procedures.
    - Maintain the Grade and Grading tables
    - Maintain permission tables

Session-Based Maintenance

Introduction

Ensure that any changes made to the academic calendar have not affected the functionality of the *grading* program. The *grading* program is dependent on the academic calendar, thus any information relative to maintenance of the academic calendar would be included in session maintenance to ensure that the *grading* program is functional.

Ensuring Functionality of the Grading Program

Follow these steps to ensure functionality of the Grading program:

1. Create the academic calendar.
2. Add new session data to the academic calendar before entering course data.

Updating Macros

Update the following macros located in $CARSPATH/macros/custom/periodic.

- SESS_CUR
- SESS_PREV
- SESS_NEXT
- SESS_GRAD
- SESSYR_PREV
- SESSYR_CUR
- SESSYR_NEXT
- SESSYR_DEF

Updating the Academic Calendar

Update the Academic Calendar as desired.

Annual Maintenance Procedures

Introduction

The only annual maintenance procedure in Grading is to update macros.

Updating Macros

Update the following macros located in $CARSPATH/macros/custom/periodic.

- ACAD_YR_PREV
- ACAD_YR_CUR
- ACAD_YR_NEXT
- ACAD_YR_DEF
- ACAD_YR_INCL
- CAT_DEF
- CAT_NEXT
- CAT_VALID

Ongoing Maintenance Procedures

Introduction

There are several ongoing maintenance procedures in Grading.

- ensuring the existence of potential grades
- ensuring appropriate permissions to enter grades

Ensuring Existence of Potential Grades

Follow these steps to ensure that all potential grades have been entered to the Grade and Grading tables:

1. Select the Registrar (F – L) option from the Registrar: Table Maintenance menu. The Table Maintenance: Registrar (F – L) menu appears.
2. Select Grade from the Table Maintenance: Registrar (F – L) menu. The Grade Table screen appears.
3. Perform a query to verify the existence of all potential grades for the next session.

   Note: See the *Getting Started User Guide* for information about how to use the Query command to perform a query.
4. Do all potential grades for the next session exist?
   - If yes, go to step 6
   - If no, go to the next step
5. Select **Add** to enter data for the grade(s) you want to enter, then press **<Esc>**.
6. Select **Exit**, then press **<Enter>**. The Table Maintenance: Registrar (F – L) screen appears.
7. Select Grading/Repeat/Counting from the Table Maintenance: Registrar (F – L) menu. The Course Flags screen appears.
8. Perform a query to verify the existence of all potential grading types for the next session.

   Note: See the *Getting Started User Guide* for information about how to use the Query command to perform a query.
9. Do all potential grading types for the next session exist?
   - If yes, go to step 11
   - If no, go to the next step
10. Select **Add** to enter data for the grade type(s) you want to enter, then press **<Esc>**.
11. Select **Exit**, then press **<Enter>**. The Table Maintenance: Registrar (F – L) screen appears.

Ensuring Appropriate Permissions to Enter Grades

Follow these steps to ensure that people who will be entering grades have appropriate permissions:

1. Select the Operator Dept Perms option from the Table Maintenance: Registrar (M – Q) menu, then select **Finish**. The Operator Department Table screen appears.
2. Select **Query** to perform a query by ID using the Operator ID field to determine whether people who will be entering grades have appropriate permissions.
3. Use the **Add** command or **Update** command to make additions or updates as necessary.

4. Select **Exit**, then press **<ENTER>**. The Table Maintenance: Registrar (M – Q) menu appears.

Note: Users who use only Web Grading do not need an operator ID (uid). Only the user ID is needed to identify the user.

SECTION 17 – PROGRAM ERRORS AND CRASH RECOVERY

Overview

Introduction

This section provides the following:

- A list of fatal errors
- Crash recovery procedures

Note: Refer to the *Grading User Guide* for a list of the more common status, field error, and warning messages that can occur when menu users execute the programs in Grading.

Fatal Errors

Fatal errors can occur in the following programs in Grading:

Grading (*grading*)
If a fatal error occurs, use the following procedure:

1. Reload the program. Erroneous or corrupt data might cause the fatal error.
2. Try a different student's data to see whether errors occur in that process. If the error does not recur, the data for the first student may be causing the error.

Fatal Errors

Messages Received

The following lists alphabetically some of the fatal error messages that can appear when you are using Grading. Future revisions of this document will go into greater detail regarding fatal error messages in other Jenzabar Grading applications.

Note: To locate these errors, enter:

1. cd src/regist/grading
2. grep error *.c | more
3. grep ERROR *.c | more
4. vic GR_FATAL

“%s. SELECT error: status=%d”
Error message returned from stat.ec.

“Cannot commit work. COMMIT WORK error: %d”
Error message returned from opts.ec.

“Cannot declare instr_cursor. DECLARE CURSOR error: %d”
Error message returned from opts.ec.

“Cannot open instr_cursor. OPEN CURSOR error: %d”
Error message returned from opts.ec.

“Cannot start transaction logging. BEGIN WORK error: %d”
Error message returned from opts.ec.

"ERROR: trn_sql 'begin work' failed: %s", trn_errm());
Error message returned from lock.c.

"ERROR: trn_sql 'begin work' SQL failure (%d,%d): %s",
Error message returned from lock.c.

"ERROR: trn_sql 'rollback work' failed: %s", trn_errm());
Error message returned from lock.c.

"ERROR: trn_sql 'rollback work' SQL failure (%d,%d): %s",
Error message returned from lock.c.

“ERROR: trn_lock SQL failure (%d,%d): %s",
Error message returned from lock.c.

“Fetch error instr_cursor. FETCH CURSOR error: %d”
Error message returned from opts.ec.

“SELECT error on %s: %d”
Error message returned from opts.ec.

Error and Crash Recovery Procedures

Introduction

The procedures to recover from a crash are organized by the seriousness of the error.

Core Dump and Fatal Exit Recovery

The following procedure describes the steps to recover from a core dump or a fatal exit of a program.

1. Access the program screens directory for the program.

   Example: % cd $CARSPATH/modules/regist/stuentry/progscr

2. Reinstall each program screen file.

   Example: % make reinstall F=<filename>

   Note: You also can reinstall all of the screens by entering the following:

   - **% make reinstall F=ALL**

3. Attempt to execute the program. Did the reinstall of the program screens fix the error?
   - If yes, you are done
   - If no, go to step 4
4. Access the source code directory of the program.

   Example: % cd $CARSPATH/src/regist/stuentry

5. Reinstall the source code for the program.

   Example: % make REINSTALL

6. Attempt to execute the program. Did the reinstall of the program source code fix the error?
   - If yes, you are done
   - If no, go to step 7
7. In the source code for the program, remove the old compiled code for the program.

   Example: % make cleanup

8. Reinstall the program source code.

   Example: % make REINSTALL

9. Attempt to execute the program. Did the cleanup of the old code and reinstallation of the program source code fix the error?
   - If yes, you are done
   - If no, go to step 10
10. Review the libraries for the program. In the source code for the program, review the file, Makefile. In the file, search for the parameter, ADDLIBS, which identifies the libraries that you must reinstall.

    Example: % vi Makefile

    /ADDLIBS

11. Reinstall the libraries for the entry program, then reinstall the source for the program.

Example: % cd <to appropriate library>

% make REINSTALL

% cd/$CARSPATH/regist/stuentry

% make REINSTALL

Note: You must reinstall the source program to include any library changes.

12. Attempt to execute the program. Did the reinstallation of the libraries for the entry program fix the error?

    - If yes, you are done
    - If no, call Jenzabar, Inc. Support Services

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