COMP3311 23T3 Database Systems

Assignment 2
Grades and Rules

Last updated: **Tuesday 31st October 12:48pm**

Most recent changes are shown in red ... older changes are shown in brown.

[Specification] [Database] [SQL Schema] **[Grades+Rules]** [Examples] [Testing] [Submitting] [Fixes+Updates]

Introduction

This document contains a detailed description of how different kinds of rules are defined and what effects grades have in various contexts.

Grades

Grades have different effects in different contexts:

- Req = used in satisfying Requirement
- UOC = used in calculating total UOC
- WAM = used in calculating WAM (add to UOC-for-WAM + marks)

Note that UOC is for all courses passed; the UOC used for WAM is for all courses attempted.

Grades	Req	UOC	WAM
A,B,C,D (with + or -)	yes	yes	no
HD,DN,CR,PS	yes	yes	yes
XE,T	yes	yes	no
SY,EC,RC,NC	yes	yes	no
AF,FL,UF,E,F	no	no	yes
AS,AW,NA,PW,RD	no	no	no
NF,LE,PE,WD,WJ	no	no	no
null	no	no	no

Note: AF has no associated mark; it is treated as if the mark were zero.

What to print on the transcript for each type of grade:

- *X*uoc for A,B,C,D,HD,DN,CR.PS,XE,T,SY,EC,RC,NC
- `fail` for AF,FL,UF,E,F
- `unrs` (unresolved) for AS,AW,PW,NA,RD,NF,LE,PE,WD,WJ

Many of these grades do not appear in the database, and I don't include EM (excluded due to academic misconduct) which isn't really a grade applied to

individual courses. If you want to find what all these grades mean, take a look at the UNSW web site.

Defining Requirements

This gives examples of how different kinds of requirements are defined in the MyMyUNSW database.

Code	Description	Acad Objects	Min/Max
stream	= satisfied all requirements for a stream	enumerated list of stream codes	# streams to complete
core	Core Courses; must complete all	list of course codes (no patterns, but may have alternatives (i.e. "{c1;c2}"))	set min/max to null
elective	Prescribed Electives	list of courses (enumerated or patterns)	must complete UOC between min and max; (max = null) means "at least min UOC"; (min = null) means "up to max UOC"; cannot both be null
free	Free Electives	special pattern "FREE####"; anything not core or elective or gened can be a free elective	as for "elective"
gened	General Education	special pattern "GEN#####"; any course not core or elective can be GenEd (priority to courses with course codes like GEN#####**)	typically min = max = 12
uoc	Units of Credits needed	no academic objects	(max = null) means "at least min UOC"; (min = null) means "up to max UOC"; cannot both be null

** In theory, you should reject GEs from within the faculty. Since this database is based on enrolment data, this shouldn't happen. And since doing this checks adds extra complexity, there's no need to check.

You can find out more about the kinds of rules in the database by asking a query on the `Requirements` table, to see how things are structured.

Academic Object Groups

A critical part of describing requirements is the subject/stream info in the academic object group associated with each rule.

Note that each academic object group contains items of one particular type; either subjects or streams.

For this assignment, academic object groups are defined as comma-separated lists of items. Each item could be either a course or stream code, a choice of several courses, or a pattern, which identifies multiple courses. There are a wide variety of patterns. You should explore the `Requirements` table to see what's available. To give you a head start, here are some patterns and what they mean:

- `COMP1511,COMP1521,COMP1531` ... core first year computing courses
- `{MATH1131;MATH1141}` ... alternatives; take one or the other
- `FREE####` ... any free elective; for this case, simply return the pattern itself**
- `GEN#####` ... any Gen Ed course; for this case, simply return the pattern itself**
- `####1###` ... any level 1 course at UNSW
- `COMP2###` ... any level 2 computing course (e.g. COMP2511, COMP2041)
- `COMP1###,COMP2###` ... first and second year COMP courses

Definitions such as the above are stored in the `acadobjs` field in the `Requirements` table.

Requirements for some CSE Programs and Streams

Here are the requirements for each program and stream. They were derived from manual reading of the Handbook and some requirements have been simplified compared to the Handbook. It's possible that some rule sets don't accurately reflect the Handbook. All of the examples and test cases are based on what's in the database and may not precisely reflect reality.

```
 1. # Requirements(id,name,rtype,min_req,max_req,acadobjs,fo
 2. # Requirements.rtype = (core,elective,free,gened,stream,
 3.
 4. # Programs
 5.
 6. 3707    Bachelor of Engineering (Hons)
 7.         stream  1       1       BE(Hons) Streams
 8.                 AEROAH,BINFAH,CEICAH,CEICDH,COMPBH,CVENA
 9.         core    -       -       Industrial Training
10.                 ENGG4999
```

```
11.         gened   12      12      General Education
12.                 GEN#####
13.
14. 3778    Bachelor of Science (Comp Sci)
15.         stream  1       1       Comp Sci Majors
16.                 COMPA1,COMPD1,COMPE1,COMPI1,COMPJ1,COMPN
17.         core    -       -       Foundational Computing
18.                 COMP1511,COMP1521,COMP1531,COMP2511,COMP
19.         core    -       -       Comp Sci Maths
20.                 MATH1081,{MATH1131;MATH1141},{MATH1231;MA
21.         core    -       -       Comp Sci Advanced Core
22.                 {COMP3121;COMP3821},COMP3900,COMP4920
23.         GE      12      12      General Education
24.                 GEN#####
25.
26. 5543    Graduate Diploma in IT
27.         core    -       -       PG Core Courses
28.                 COMP9021,COMP9024,COMP9311,COMP9331
29.         elective        18      18      ADK Courses
30.                 COMP4121,COMP4161,COMP4418,COMP6714,COMP
31.         elective        30      30      Prescribed Elect
32.                 COMP4###,COMP6###,COMP9###
33.
34. 7543    Graduate Certificate in IT
35.         elective        24      24      Grad Cert Electi
36.                 BINF9###,COMP4###,COMP6###,COMP9###
37.
38. 8543    Master of Information Technology
39.         stream  1       1       MIT Streams
40.                 COMPAS,COMPBS,COMPCS,COMPDS,COMPES,COMPI
41.         core    -       -       Project Management
42.                 GSOE9820
43.         core    -       -       PG Core Courses
44.                 COMP9021,COMP9024,COMP9311,COMP9331
45.         core    -       -       MIT Project Courses
46.                 {COMP9900;COMP9991}
47.         elective        36      36      ADK Courses
48.                 COMP4121,COMP4161,COMP4418,COMP6714,COMP
49.
50.
51. # Streams
52.
53. COMPA1  Computer Science
54.         elective        30      -       COMPA1 Computing
55.                 ENGG2600,ENG3600,ENGG4600,COMP3###,COMP4
56.         free    36      -       COMPA1 Free Electives
57.                 FREE####
58.
59. COMPAS  Artificial Intelligence
60.         core    -  -    COMPAS Core
61.                 {COMP9414;COMP9814}
62.         elective        18      18      COMPAS Electives
63.                 COMP4418,COMP9318,COMP9417,COMP9418,COMP
64.         elective        -       6       COMPAS Disciplin
65.                 BINF6###,BINF9###,COMP4###,COMP6###,COMP
66.
67. COMPBH  Computer Engineering
68.         core    -       -       Foundational Computing
69.                 COMP1511,COMP1521,COMP1531,COMP2511,COMP
70.         core    -       -       COMPBH Maths
71.                 {MATH1131;MATH1141},{MATH1231;MATH1241},
72.         core    -       -       COMPBH Physics and Elect
73.                 {PHYS1121;PHYS1131},{PHYS1221;PHYS1231},
74.         core    -       -       COMPBH Design
75.                 {ENGG1000;DESN1000},DESN2000
76.         core    -       -       COMPBH Advanced Core
```

```
                COMP3211,COMP3222,COMP3231,COMP3601,COMP
        elective        36      -       COMPBH Computing
                ENGG2600,ENGG3060,ENGG3600,ENGG4600,COMP

COMPBS  Bioinformatics
        core    -       -       COMPBS Core
                BINF9010,BINF9020
        elective        18      18      COMPBS Electives
                COMP9318,COMP9417,MATH5846,MATH5856
        elective        -       6       COMPBS Disciplin
                BINF6###,BINF9###,COMP4###,COMP6###,COMP

COMPCS  Computer Science
        elective        24      24      COMPCS Disciplin
                BINF6###,BINF9###,COMP4###,COMP6###,COMP

COMPD1  Database Systems
        core    -       -       COMPD1 Core
                COMP3311
        elective        18      18      COMPD1 Electives
                COMP6714,COMP9312,COMP9313,COMP9315,COMP
        elective        6       -       COMPD1 Computing
                ENGG2600,ENG3600,ENGG4600,COMP3###,COMP4
        free    36      -       COMPD1 Free Electives
                FREE####

COMPDS  Database Systems
        elective        18      18      COMPDS Electives
                COMP6714,COMP9312,COMP9313,COMP9315,COMP
        elective        -       12      COMPDS Disciplin
                BINF6###,BINF9###,COMP4###,COMP6###,COMP

COMPE1  eCommerce Systems
        core    -       -       COMPE1 Core
                COMP3311
        elective        18      18      COMPE1 Electives
                COMP3511,COMP9321,COMP9322,COMP9323
        elective        6       -       COMPD1 Computing
                ENGG2600,ENG3600,ENGG4600,COMP3###,COMP4
        free    36      -       COMPD1 Free Electives
                FREE####

COMPES  eCommerce Systems
        elective        18      18      COMPES Electives
                ACCT5922,COMP6324,COMP6452,COMP9313,COMP
        elective        -       12      COMPES Disciplin
                BINF6###,BINF9###,COMP4###,COMP6###,COMP

COMPI1  Artificial Intelligence
        core    -       -       COMPI1 Core
                COMP3411
        elective        18      18      COMPI1 Electives
                COMP3431,COMP4418,COMP9318,COMP9417,COMP
        elective        6       -       COMPI1 Computing
                ENGG2600,ENG3600,ENGG4600,COMP3###,COMP4
        free    36      -       COMPI1 Free Electives
                FREE####

COMPIS  Internetworking
        elective        18      18      COMPIS Electives
                COMP9332,COMP9334,COMP6733,COMP9336,COMP
        elective        -       12      COMPDS Disciplin
                BINF6###,BINF9###,COMP4###,COMP6###,COMP

COMPJ1  Programming Languages
        core    -       -       COMPJ1 Core
```

```
                COMP3161
        elective        18      18      COMPJ1 Electives
                COMP3131,COMP3141,COMP3151,COMP6771
        elective        6       -       COMPJ1 Computing
                ENGG2600,ENG3600,ENGG4600,COMP3###,COMP4
        free    36      -       COMPJ1 Free Electives
                FREE####

COMPN1  Computer Networks
        core    -       -       COMPN1 Core
                COMP3331
        elective        18      18      COMPN1 Electives
                COMP4336,COMP4337,COMP6733,COMP9332,COMP
        elective        6       -       COMPN1 Computing
                ENGG2600,ENG3600,ENGG4600,COMP3###,COMP4
        free    36      -       COMPN1 Free Electives
                FREE####

COMPS1  Embedded Systems
        core    -       -       COMPS1 Core
                COMP2121,COMP3222
        elective        18      18      COMPS1 Electives
                COMP3211,COMP3231,COMP3601,COMP4601,COMP
        elective        6       -       COMPS1 Computing
                ENGG2600,ENG3600,ENGG4600,COMP3###,COMP4
        free    30      -       COMPS1 Free Electives
                FREE####

COMPSS  Data Science and Engineering
        elective        6       12      COMPSS Algos/Sta
                COMP4141,COMP6741,MATH5845,MATH5855,MATH
        elective        6       12      COMPSS Databases
                COMP9313,COMP9315,COMP9318,COMP9319,COMP
        elective        6       12      COMPSS Machine L
                COMP4418,COMP6714,COMP9417,MATH5836,COMP
        elective        -       6       COMPSS Disciplin
                BINF6###,BINF9###,COMP4###,COMP6###,COMP

COMPY1  Security Engineering
        core    -       -       COMPY1 Core
                {COMP6441;COMP6841}
        elective        18      18      COMPY1 Electives
                COMP4337,{COMP6443;COMP6843},{COMP6445;C
        elective        6       -       COMPY1 Computing
                ENGG2600,ENG3600,ENGG4600,COMP3###,COMP4
        free    30      -       COMPY1 Free Electives
                FREE####

SENGAH  Software Engineering
        core    -       -       Foundational Computing
                COMP1511,COMP1521,COMP1531,COMP2511,COMP
        core    -       -       SENGAH Maths
                MATH1081,{MATH1131;MATH1141},{MATH1231;MA
        core    -       -       SENGAH Workshops/Design
                {DESN1000;ENGG1000},DESN2000,SENG2011,SE
        core    -       -       SENGAH Advanced Core
                COMP2041,COMP3141,COMP3311,COMP3331,SENG
        elective        36      -       SENGAH Disciplin
                ENGG2600,ENGG3060,ENGG3600,ENGG4600,COMP
        free    6       6       SENGAH Free Electives
                FREE####

```