

Revised 3-20-08 after Exam 3.

Valid for RAW SCORES through Exam 3.

Hypothetical grades must be applied to later work.

The "grades" program below is offered as a convenience to students. It is subject to change if errors are discovered, scales are relaxed, or extra credit options are offered.

Method for determining course GRADE:

Course Grade. Your course grade will be calculated as follows:

$$\begin{aligned} \text{Course Grade} = & .24 \text{ Average Recitation Activity Grade} \\ & + .76 \text{ Exams 1 through 4 Average} \end{aligned}$$

Your course grade will be converted to a registrar's grade according to the formula:

| | |
|--------------|-----|
| below 0.9 | 0.0 |
| 0.9 to < 1.4 | 1.0 |
| 1.4 to < 1.9 | 1.5 |
| 1.9 to < 2.4 | 2.0 |
| 2.4 to < 2.9 | 2.5 |
| 2.9 to < 3.4 | 3.0 |
| 3.4 to < 3.9 | 3.5 |
| 3.9 upward | 4.0 |

This scale may be relaxed as the instructor deems appropriate.

Grading Scales through EXAM 3 are as follows:

HW1 GRADE = $2 + (2/3)$ (RAW SCORE - 4)

HW2 GRADE = 4 if completed, 0 if not

HW3 GRADE = 4 if completed, 0 if not

EXAM 1 GRADE = $2 + 0.5$ (RAW SCORE - 8)

HW 4 GRADE = 4 if completed, 0 if not

HW 5 GRADE = $2 + 0.5$ (RAW SCORE - 7)

HW 6 GRADE = $2 + (\text{RAW SCORE}) / 2.5$ (or 0.0 if raw score is 0)

EXAM 2 GRADE = $2 + (2/7)$ (RAW SCORE - 10)

HW 7 GRADE = RAW SCORE (0, 2, or 4)

HW 8 GRADE = 0.4 (RAW SCORE)

EXAM 3 GRADE = $2.0 + 0.5 (\text{RAW SCORE} + \text{Attendance 2 score} - 6)$

HW 9 GRADE =

HW 10 GRADE =

HW 11 GRADE =

EXAM 4 GRADE =

The formula "grade" defined below will be updated after each new recitation HW or EXAM scale is announced.

You always enter RAW SCORES for work already scored (and for which grade scales have been announced), followed by "hypothetical GRADES" for *future* HW and EXAMS.

For HW 2, 3, 4, 6 your RAW SCORE = 1 if completed, 0 if not. On your scoring office feedback this score may be shown as 1 (for completed) or 8 (for completed) depending upon your recitation instructor's scoring scale. The program will calculate a GRADE of 4 or 0 from this raw score but it must be entered as 1 (completed) or 0.

The "grade" program (a *Mathematica* file posted to www.stt.msu.edu/~lepage):

The script below is for a program "grade" which will give you a course grade based on your raw scores to data together with any projected future grades. It will also print your inputs and their grade equivalents so you can be sure everything seems correct.

You must click on the following and perform SHIFT ENTER prior to using the program "grade". Don't mess with the formula before SHIFT ENTER or it may give misleading results.

```
In[7]:= grade[hw1_, hw2_, hw3_, e1_, hw4_, hw5_, hw6_, e2_, hw7_, hw8_, e3_, hw9_, hw10_, hw11_, e4_] :=
Module[{legend = {"HW1", "HW2", "HW3", "E1", "HW4", "HW5", "HW6", "E2", "HW7", "HW8",
"E3", "HW9", "HW10", "HW11", "E4"}, mygrades = 1.0 {Max[0, 2 + (2 / 3) (hw1 - 4)],
4 hw2, 4 hw3, Max[0, 2 + 0.5 (e1 - 8)], 4 hw4, Max[0, 2 + 0.5 (hw5 - 7)],
If[hw6 > 0, 2 + hw6 / 2.5, 0], Max[0, 2 + (2 / 7) (e2 - 10)],
hw7, 0.4 hw8, Max[0, 2 + 0.5 (e3 - 6)], hw9, hw10, hw11, e4} },
{legend,
{mygrades,
0.76 mean[mygrades][[4, 8, 11, 15]]] +
0.24 mean[mygrades][[1, 2, 3, 5, 5, 7, 9, 10, 12, 13, 14]]] } }
```

For example, here are the RAW SCORES of a student (through EXAM 3):

HW1 0

| | |
|------|---------------------------------------|
| HW2 | 1 (completed) |
| HW3 | 1 (completed) |
| E1 | 7 |
| HW4 | 1 (completed) |
| HW5 | 3 |
| HW6 | 2 |
| E2 | 7 |
| HW7 | 0 |
| HW8 | 5 |
| E3 | 3 (add 2 from "Attendance 2" gives 5) |
| HW9 | 2 (hypothetical GRADE) |
| HW10 | 2 (hypothetical GRADE) |
| HW11 | 2 (hypothetical GRADE) |
| E4 | 2 (hypothetical GRADE) |

We will first calculate the maximum possible grade for the course (exclusive of any future extra credit assignments) by entering the above SCORES, together with 4.0 GRADES for all future work.

Likewise, we will compute the minimum possible course grade by entering the raw scores though EXAM 2 together with 0.0 for all future GRADES.

```
In[21]:= grade[0, 1, 1, 7, 1, 3, 2, 7, 0, 5, 5, 0, 0, 0, 0]
```

```
Out[21]= {{HW1, HW2, HW3, E1, HW4, HW5, HW6, E2, HW7, HW8, E3, HW9, HW10, HW11, E4},
          {{0, 4., 4., 1.5, 4., 0., 2.8, 1.14286, 0, 2., 1.5, 0, 0, 0, 0}, 1.24096}}
```

```
In[22]:= grade[0, 1, 1, 7, 1, 3, 2, 7, 0, 5, 5, 2, 2, 2, 2]
```

```
Out[22]= {{HW1, HW2, HW3, E1, HW4, HW5, HW6, E2, HW7, HW8, E3, HW9, HW10, HW11, E4},
          {{0, 4., 4., 1.5, 4., 0., 2.8, 1.14286, 0, 2., 1.5, 2., 2., 2., 2.}, 1.75187}}
```

```
In[23]:= grade[0, 1, 1, 7, 1, 3, 2, 7, 0, 5, 5, 4, 4, 4, 4]
```

```
Out[23]= {{HW1, HW2, HW3, E1, HW4, HW5, HW6, E2, HW7, HW8, E3, HW9, HW10, HW11, E4},
          {{0, 4., 4., 1.5, 4., 0., 2.8, 1.14286, 0, 2., 1.5, 4., 4., 4., 4.}, 2.26278}}
```

As of this date, the student could earn a course grade as low as 1.24 or as high as 2.26 exclusive of any extra credit assignments that may be offered. This range will narrow as we progress through the course.

After the next homework grading scale has been released the program "grade" will be revised so that you will enter RAW SCORES through HW8 and hypothetical GRADES thereafter. This pattern will be followed for all future activities and the first paragraph above will indicate the change.