



Math Department

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Medical Math vs Intermediate Algebra

AMATYC [Section Identification Code: S061](#)

October 31, 2013

The scariest day of the year!

Pre-nursing students can improve their mathematical skills by taking a medical math class that is designed for such a purpose. The presentation covers curriculum, syllabus, grading standards, and pedagogy so that future nurses are able to solve and check dosages and other related mathematical problems accurately and efficiently.

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Students' Success

Current at SLCC

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MATH 1030 Quantitative Reasoning 3 cr
Prereq: RDG 0990; within the last year, MATH 1010 w/C grade or better, or appropriate Accuplacer score.
The course focuses on the development of analytical thinking through the application of math to real-life problems. Topics include modeling, logic, financial math, probability, statistics, and geometry.

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Memorizations: Medical Abbreviations

qam = every morning

q1h = every hour

q2h = every 2 hours

q4h = every 4 hours

p.c. = after meals

a.c. = before meals

qd = every day

qod = every other day

bid = two times a day

tid = three times a day

qid = four times a day

hs = hour of sleep

\bar{c} = with

\bar{s} = without

mEq = milliequivalent

prn = as needed

IM = intramuscular

IV = intravenous

SubQ = subcutaneous

SQ = subcutaneous

PO = by mouth

NPO = nothing by mouth

SL = sublingual

OD = right eye

OS = left eye

OU = both eyes

AD = right ear

AS = left ear

AU = both ears

Stat = immediately

Memorizations: Unit abbreviations

Time

yr = year
mon = month
wk = week
h = hour
min = minute
sec = second

Length

km = kilometer
m = meter
cm = centimeter
mm = millimeter
yd = yard
ft = feet
in = inch

Volume

L = liter
mL = milliliter
cc =
cubic centimeter
gal = gallon
qt = quart
pt = pint
fl oz = fluid ounce
fl dr = fluid dram
tbsp or T =
Tablespoon
tsp or t =
teaspoon

Volume

gtt = drop
 μ ggtt = microdrop
c = cup

Weight

kg = kilogram
g = gram
mg = milligram
mcg or μ g =
microgram
lb = pound
oz = ounce
dr = dram
gr = grain

Memorizations: Conversions

Time

1 yr \sim 365 days
1 yr = 12 mon
1 mon \sim 30 days
1 wk = 7 days
1 day = 24 h
1 h = 60 min
1 min = 60 sec

Length: Metric

1 km = 1,000 m
1 m = 100 cm
1 m = 1,000 mm
1 cm = 10 mm

Length: U. S.

1 yd = 3 ft
1 ft = 12 in

Between Systems

1 in = 2.54 cm

Weight: Metric

1 kg = 1,000 g
1 g = 1,000 mg
1 mg = 1,000 mcg

Weight: U. S.

1 lb = 16 oz
1 oz = 8 dr
1 dr = gr 60

Between Systems

1 kg \sim 2.2 lb
1 g \sim gr 15
gr 1 \sim 60 mg

Memorizations: Conversions

Volume: Metric

$$1 \text{ L} = 1,000 \text{ mL}$$

$$1 \text{ mL} = 1 \text{ cc}$$

Volume:

Household

$$1 \text{ cup} = 16 \text{ T}$$

$$1 \text{ T} = 3 \text{ t}$$

Volume:

Apothecary

$$1 \text{ gal} = 4 \text{ qt}$$

$$1 \text{ qt} = 2 \text{ pt}$$

$$1 \text{ pt} = 16 \text{ fl oz}$$

$$1 \text{ fl oz} = 8 \text{ fl dr}$$

$$1 \text{ fl dr} = \\ 60 \text{ minims}$$

Between Systems

$$1 \text{ qt} \sim 1 \text{ liter}$$

$$1 \text{ c} = 240 \text{ mL}$$

$$1 \text{ c} = 8 \text{ fl oz}$$

$$1 \text{ fl oz} = 2 \text{ T}$$

$$1 \text{ fl oz} = 30 \text{ mL}$$

$$1 \text{ t} = 5 \text{ mL}$$

$$1 \text{ minim} \sim 1 \text{ gtt}$$

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Intermediate Algebra: Accuracy (An Example)

- ▶ The prescription states: Cefaclor 0.5 g PO qid. The drug label states: Cefaclor, 250 mg/capsule. How much drug do you administer?
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▶ $\frac{1 \text{ g}}{1,000 \text{ mg}} = \frac{x \text{ g}}{250 \text{ mg}}$ OR $1 \text{ g} : 1,000 \text{ mg} = x \text{ g} : 250 \text{ mg}$

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Medical Math: Accuracy (Same Question)

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- ▶ Students who take Medical Math should check and see if it is an overdose first!

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Medical Math: Accuracy (Modified Question)

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- ▶ ordered amount = $0.5 \text{ g} \times \frac{4}{\text{day}} = \frac{2 \text{ g}}{\text{day}} < \frac{4 \text{ g}}{\text{day}} = \text{max}$

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- ▶ Describe how to mix a 36.3% solution and a 11.3% solution to get 1,000 milliliter (mL) of 17.8% solution? (No calculator is allowed)
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- ▶ Answer: Start with 260 mL of the 35% solution, add enough 10% solution until the volume is 1,000 mL.

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- ▶ We are in the 21st Century.

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Calculator Statement in Syllabus

No calculators will be allowed on Tests 1 and 2. Students will need a scientific calculator for Tests 3 and 4. The use of a calculator is not permitted on the first part of the final examination. A scientific calculator is needed for the second part of the final examination. The first part of the final examination constitutes more than 50% of the overall final exam score.

Grading Scale in Syllabus

Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+
Min. Overall %	93	90	87	83	80	78	73	70	67
AND									
Min. Final %	78	78	78	78	78	78	73	60	60
Other classes min.	60	60	60	60	60	60	60	60	60

Final	Project & E-portfolio	4 tests Participation	HW & Quizzes
30%	4%	14% each	10%

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Thank you for coming!

Thank you for attending this session!
Enjoy the rest of the AMATYC conference!



Math Department

Shane Tang

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Medical Math vs Intermediate Algebra

AMATYC [Section Identification Code: S061](#)

October 31, 2013

The scariest day of the year!