

Contemporary Issues in Foods and Nutrition

FCS 321

MEAL PLAN PROJECT COSTING



Some examples:

Coffee: \$8.00/lb

1 lb of coffee has 100 servings

How much is 1 serving of coffee?

Answer: \$8.00/100 servings = \$0.08

Eggs:

Cost of 20 grams of protein from eggs?

1 egg has 6.9 grams of protein.

1 dz eggs = \$0.84

How much is 20 g of protein?

(20 g protein) (1 egg) (\$.84)

(6.9 g pro) (12 eggs)

Answer: **\$0.20 for 20 grams protein**

Ground beef:

Cost of 15 grams of protein from beef?

1 lb beef = \$5.98

3 oz beef = 24 grams protein

$(15 \text{ g protein}) \left(\frac{3 \text{ oz}}{24 \text{ g pro}} \right) \times \left(\frac{\$5.98}{16 \text{ oz}} \right)$

Answer: **\$0.70 for 15 g protein**

Milk

Cost of 400 mg calcium in whole milk?

1 quart milk = \$2.00

273 mg Ca⁺⁺ per 8 ounces milk

$$(400 \text{ mg}) \quad \frac{(\$2.00)}{(\text{qt})} \quad \frac{(1 \text{ qt})}{(32 \text{ oz})} \quad \frac{(8 \text{ oz})}{(273 \text{ mg})}$$

Answer: \$0.73 for 400 mg calcium

Yogurt:

Cost of 400 mg calcium in non-fat yogurt?

6 oz non-fat yogurt = \$0.75

8 oz non-fat yogurt = 300 mg Ca⁺⁺

$$(400 \text{ mg Ca}) \left(\frac{\$0.75}{(6\text{oz})} \right) \left(\frac{(8 \text{ oz})}{(300 \text{ mg Ca})} \right)$$

Answer: **\$1.33 for 400 mg calcium**

Food Cost Plans



USDA FOOD PLANS

- Issued monthly by the USDA
- 4 different food cost *purchasing* plans
 - Thrifty plan—basis for food stamps;
Can purchase beans and eggs for protein
 - Low Cost plan
 - Moderate Cost plan
 - Liberal plan

- **Individuals—costs are given per member**
 - Assuming it is a 4 person family
- **If household size differs, make the following adjustments**
 - 1 person—add 20%
 - 2 person—add 10%
 - 3 person—add 5%
 - 4 person—no adjustment
 - 5-6 person—subtract 5%
 - 7 or more persons—subtract 10%

Example:

low cost

moderate cost

(June 2014)

12 yo girl

47.60

57.30

3 yo boy

30.70

37.00

30 yo female

48.40

59.70

30 yo male

55.70

69.90

75 yo female

46.80

58.10

\$229.20

\$282.00

less 5% =

\$217.74/wk

\$269.90/wk

12 yo girl - LC 3 yo boy 30 yo mother 30 yo dad 75 yo grandmother	Low Cost Plan 12 yo girl - \$47.60 3 yo boy 30.70 30 yo mother 48.40 30 yo dad 55.70 75 yo grandmother 46.80 \$229.20 minus -5% = (Total - 11.46) = 217.74	MC 12 yo girl: \$57.30 3 yo boy 37.00 30 yo mother 59.70 30 yo dad 69.90 75 yo g'ma 58.10 \$282.00-14.10=269.90
---	---	--

**Official USDA Food Plans: Cost of Food at Home at Four Levels,
U.S. Average, June 2014¹**

Age-gender groups	Weekly cost ¹				Monthly cost ¹			
	Thrifty plan	Low-cost plan	Moderate-cost plan	Liberal plan	Thrifty plan	Low-cost plan	Moderate-cost plan	Liberal plan
Individuals²								
Child:								
1 year	22.00	29.30	33.20	40.70	95.20	127.00	143.80	176.20
2-3 years	23.90	30.70	37.00	45.00	103.70	133.20	160.20	195.10
4-5 years	25.30	31.70	39.30	48.00	109.40	137.40	170.30	207.90
6-8 years	32.00	44.60	53.70	63.60	138.80	193.30	232.60	275.50
9-11 years	36.20	48.30	62.20	72.40	157.00	209.10	269.40	313.90
Male (M):								
12-13 years	38.90	55.00	69.00	81.00	168.60	238.50	299.00	351.00
14-18 years	40.10	55.90	71.30	81.90	173.80	242.20	308.80	354.90
19-50 years	43.20	55.70	69.90	86.00	187.20	241.50	302.70	372.40
51-70 years	39.40	52.70	65.90	79.00	170.90	228.20	284.00	342.20
71+ years	39.80	52.30	64.50	79.80	172.20	226.50	279.60	345.70
Female (F):								
12-13 years	39.00	47.60	57.30	70.30	169.10	206.50	248.10	304.40
14-18 years	38.30	47.60	57.70	71.00	166.20	206.20	250.00	307.60
19-50 years	38.40	48.40	59.70	76.40	166.60	209.80	258.80	330.90
51-70 years	38.00	47.70	58.80	71.00	164.60	204.50	254.80	307.60
71+ years	36.90	46.80	58.10	70.10	159.90	202.80	251.60	303.50
Families								
Family (M&F) of 2:³								
19-50 years	89.80	114.60	142.60	178.50	389.10	496.40	617.70	773.60
51-70 years	85.20	109.80	136.80	165.00	369.10	475.90	592.70	714.80
Family of 4:⁴								
Couple (M&F), 19-50 years and children—								
2-3 and 4-5 years	130.80	166.60	205.90	255.30	566.90	721.90	892.10	1106.30
6-8 and 9-11 years	149.90	197.00	245.40	298.30	649.50	853.70	1063.50	1292.70

¹The Food Plans represent a nutritious diet at four different cost levels. The nutritional bases of the Food Plans are the 1997-2005 Dietary Reference Intakes, 2005 Dietary Guidelines for Americans, and 2005 MyPyramid food intake recommendations. In addition to cost, differences among plans are in specific foods and quantities of foods. Another basis of the Food Plans is that all meals and snacks are prepared at home. For specific foods and quantities of foods in the Food Plans, see *Thrifty Food Plan, 2006* (2007) and *The Low-Cost, Moderate-Cost, and Liberal Food Plans, 2007* (2007). All four Food Plans are based on 2001-02 data and updated to current dollars by using the Consumer Price Index for specific food items.

²All costs are rounded to nearest 10 cents.

³The costs given are for individuals in 4-person families. For individuals in other size families, the following adjustments are suggested: 1-person—add 20 percent; 2-person—add 10 percent; 3-person—add 5 percent; 4-person—no adjustment; 5- or 6-person—subtract 5 percent; 7- (or more) person—subtract 10 percent. To calculate overall household food costs, (1) adjust food costs for each person in household and then (2) sum these adjusted food costs.

⁴Ten percent added for family size adjustment.

12 yo girl - LC 3 yo boy 30 yo mother 30 yo dad 75 yo grandmother	Low Cost Plan 12 yo girl - \$47.60 3 yo boy 30.70 30 yo mother 48.40 30 yo dad 55.70 75 yo grandmother 46.80 \$229.20 minus -5% = (Total - 11.46) = 217.74	MC 12 yo girl: \$57.30 3 yo boy 37.00 30 yo mother 59.70 30 yo dad 69.90 75 yo g'ma 58.10 \$282.00-14.10=269.90
---	---	--



United States Department of Agriculture

**Official USDA Food Plans: Cost of Food at Home at Four Levels,
U.S. Average, December 2014 ¹**

Age-gender groups	Weekly cost ²				Monthly cost ²			
	Thrifty plan	Low-cost plan	Moderate-cost plan	Liberal plan	Thrifty plan	Low-cost plan	Moderate-cost plan	Liberal plan
Individuals ³								
Child:								
1 year	\$22.00	\$29.80	\$33.60	\$41.10	\$95.10	\$129.10	\$145.80	\$177.90
2-3 years	\$24.00	\$30.80	\$37.10	\$45.40	\$104.10	\$133.70	\$161.00	\$196.60
4-5 years	\$25.40	\$31.90	\$39.60	\$48.20	\$109.90	\$138.20	\$171.70	\$209.00
6-8 years	\$32.50	\$45.50	\$54.10	\$63.90	\$140.70	\$197.20	\$234.40	\$276.90
9-11 years	\$36.60	\$48.20	\$62.70	\$72.90	\$158.70	\$209.00	\$271.90	\$316.10
Male:								
12-13 years	\$39.10	\$55.50	\$69.70	\$81.70	\$169.60	\$240.30	\$302.00	\$354.20
14-18 years	\$40.10	\$56.10	\$71.80	\$82.80	\$173.80	\$243.20	\$311.10	\$358.70
19-50 years	\$43.50	\$56.30	\$70.50	\$86.90	\$188.30	\$243.70	\$305.40	\$376.70
51-70 years	\$39.60	\$53.00	\$66.10	\$79.80	\$171.50	\$229.50	\$286.40	\$345.60
71+ years	\$39.90	\$52.70	\$65.20	\$80.70	\$172.80	\$228.20	\$282.50	\$349.60
Female:								
12-13 years	\$39.10	\$47.80	\$57.80	\$70.80	\$169.30	\$206.90	\$250.30	\$306.90
14-18 years	\$38.40	\$48.00	\$58.30	\$71.70	\$166.50	\$208.10	\$252.50	\$310.60
19-50 years	\$38.60	\$48.80	\$60.40	\$77.00	\$167.10	\$211.60	\$261.60	\$333.50
51-70 years	\$38.10	\$47.40	\$59.00	\$71.40	\$164.90	\$205.60	\$255.80	\$309.20
71+ years	\$37.30	\$47.20	\$58.60	\$70.60	\$161.80	\$204.50	\$254.10	\$306.10
Families								
Family (Male & Female) of 2: ⁴								
19-50 years	\$90.20	\$115.60	\$144.00	\$180.30	\$391.00	\$500.90	\$623.80	\$781.20
51-70 years	\$85.40	\$110.40	\$137.70	\$166.20	\$370.10	\$478.50	\$596.50	\$720.30
Family of 4:								
Couple (Male & Female), 19-50 years and children—								
2-3 and 4-5 years	\$131.40	\$167.90	\$207.60	\$257.50	\$569.40	\$727.30	\$899.70	\$1115.80
6-8 and 9-11 years	\$151.10	\$198.90	\$247.70	\$300.80	\$654.90	\$861.60	\$1073.40	\$1303.20

¹ The Food Plans represent a nutritious diet at four different cost levels. The nutritional bases of the Food Plans are the 1997-2005 Dietary Reference Intakes, 2005 Dietary Guidelines for Americans, and 2005 MyPyramid food intake recommendations. In addition to cost, differences among plans are in specific foods and quantities of foods. Another basis of the Food Plans is that all meals and snacks are prepared at home. For specific foods and quantities of foods in the Food Plans, see *Thrifty Food Plan, 2006* (2007) and *The Low-Cost, Moderate-Cost, and Liberal Food Plans, 2007* (2007). All four Food Plans are based on 2001-02 data and updated to current dollars by using the Consumer Price Index for specific food items.

² All costs are rounded to nearest 10 cents.

³ The costs given are for individuals in 4-person families. For individuals in other size families, the following adjustments are suggested: 1 person—add 70 percent; 2 person—add 10 percent; 3 person—add 5 percent; 4 person—no adjustment; 5 or 6 person—subtract



United States Department of Agriculture

12 yo girl - LC
 3 yo boy
 30 yo mother
 30 yo dad
 75 yo grandmother

**Official USDA Food Plans: Cost of Food at Home at Four Levels,
 U.S. Average, July 2016¹**

Age-gender groups	Weekly cost ²				Monthly cost ²			
	Thrifty plan	Low-cost plan	Moderate-cost plan	Liberal plan	Thrifty plan	Low-cost plan	Moderate-cost plan	Liberal plan
Individuals³								
Child:								
1 year	\$21.60	\$30.20	\$36.40	\$39.90	\$93.70	\$125.00	\$141.50	\$172.70
2-3 years	\$23.70	\$31.10	\$37.30	\$44.30	\$102.50	\$130.90	\$157.50	\$192.00
4-5 years	\$24.80	\$31.10	\$37.30	\$47.30	\$107.50	\$135.00	\$167.80	\$204.80
6-8 years	\$31.70	\$44.20	\$53.00	\$62.70	\$137.20	\$191.60	\$229.50	\$271.90
9-11 years	\$35.60	\$47.40	\$61.40	\$71.40	\$154.40	\$205.40	\$265.90	\$309.50
Male:								
12-13 years	\$38.50	\$54.60	\$68.50	\$80.30	\$166.70	\$236.50	\$296.70	\$347.90
14-18 years	\$39.70	\$55.50	\$70.80	\$81.00	\$172.00	\$240.40	\$306.60	\$351.10
19-50 years	\$42.60	\$55.10	\$69.10	\$85.20	\$184.70	\$238.50	\$299.50	\$369.10
51-70 years	\$38.90	\$51.90	\$64.60	\$78.00	\$168.50	\$224.90	\$279.80	\$337.90
71+ years	\$39.10	\$51.30	\$63.60	\$79.00	\$169.60	\$222.30	\$275.40	\$342.40
Female:								
12-13 years	\$38.50	\$47.00	\$56.60	\$69.50	\$166.90	\$203.50	\$245.00	\$301.00
14-18 years	\$37.80	\$47.00	\$56.60	\$70.30	\$163.70	\$203.70	\$247.50	\$304.80
19-50 years	\$37.70	\$47.60	\$59.00	\$75.20	\$163.30	\$206.40	\$255.50	\$325.80
51-70 years	\$37.40	\$46.40	\$57.90	\$69.80	\$161.90	\$201.10	\$250.80	\$302.30
71+ years	\$36.20	\$45.80	\$56.90	\$68.70	\$157.00	\$198.50	\$246.60	\$297.70
Families								
Family (Male & Female) of 2:⁴								
19-50 years	\$88.30	\$112.90	\$140.90	\$176.40	\$382.80	\$489.40	\$610.50	\$764.30
51-70 years	\$83.90	\$108.10	\$134.70	\$162.50	\$363.40	\$468.60	\$583.70	\$704.20
Family of 4:								
Couple (Male & Female), 19-50 years and children—								
2-3 and 4-5 years	\$128.80	\$164.00	\$203.20	\$252.00	\$558.00	\$710.70	\$880.30	\$1091.70
6-8 and 9-11 years	\$147.60	\$194.30	\$242.40	\$294.50	\$639.60	\$841.80	\$1050.40	\$1276.20

¹ The Food Plans represent a nutritious diet at four different cost levels. The nutritional bases of the Food Plans are the 1997-2005 Dietary Reference Intakes, 2005 Dietary Guidelines for Americans, and 2005 MyPyramid food intake recommendations. In addition to cost, differences among plans are in specific foods and quantities of foods. Another basis of the Food Plans is that all meals and snacks are prepared at home. For specific foods and quantities of foods in the Food Plans, see [Thrifty Food Plan, 2006](#) (2007) and [The Low-Cost, Moderate-Cost, and Liberal Food Plans, 2007](#) (2007). All four Food Plans are based on 2001-02 data and updated to current dollars by using the Consumer Price Index for specific food items.

² All costs are rounded to nearest 10 cents.

³ The costs given are for individuals in 4-person families. For individuals in other size families, the following adjustments are suggested: 1-person—add 20 percent; 2-person—add 10 percent; 3-person—add 5 percent; 4-person—no adjustment; 5- or 6-person—subtract 5 percent; 7- (or more) person—subtract 10 percent. To calculate overall household food costs, (1) adjust food costs for each person in household and then (2) sum these adjusted food costs.

⁴ Ten percent added for family size adjustment.

Example:

low cost

moderate cost

(July 2016)

12 yo girl

47.00

56.60

3 yo boy

30.20

36.40

30 yo female

47.60

59.00

30 yo male

55.10

69.10

75 yo female

45.80

56.90

\$225.70

\$278.00

less 5% =

\$214.42/wk

\$264.10/wk

- To calculate food cost per day, divide weekly cost by 7
- To calculate food cost for 2 days, divide weekly cost by 7 and multiply by 2
- You will use low to moderate cost food plans for meal plan project cost analysis

Some points to note:

- Quantity of purchased and consumed meats, fruits, and vegetables **increase** as food cost plan **increases**
- Legumes, beans, and nuts decrease as food cost plan **increases**
 - Cheap sources of protein and nutrients
- **Fat** decreases as food cost plan **increases**