Saint Louis Christian College

GMA103n – Mathematics for the Non-Profit Professional

Bachelor of Science Degree

COURSE PREREQUISITES: None. 3 Semester Hours Credit

MISSION STATEMENT

Saint Louis Christian College pursues excellence in the Word and develops servant leaders for urban, suburban, rural, and global ministry.

COURSE DESCRIPTION

This course is designed to help meet the math and financial educational needs of those working in the non-profit sector. Topics include but are not limited to principles of basic math and elementary algebra, personal finance and taxes, organizational resource management, governmental issues, fund raising, and project management. This course meets the SLCC AIM BS degree math requirement and is equivalent to Intermediate Algebra from either the SLCC Day program or from other degree granting institutions. It may not be substituted for any math or elective course in any of the SLCC Day degree programs. In addition to the assigned materials, the student must have moderate computer skills, internet access, and a TI-83 Calculator or the equivalent.

COURSE RATIONALE

This course contributes to the fulfillment of Student Learning Objective # 3, "SLCC focuses on developing skills appropriate for leadership in a changing world" and #4, "SLCC promotes academic excellence and seeks to develop in students a desire for personal enrichment and lifelong learning". It also contributes to General Education Division Objective #3, "The student will demonstrate an understanding of mathematical and scientific concepts from a Christian perspective."

COURSE OBJECTIVES

Upon completion of this course, the learner should be able to:

1. Perform basic mathematical operations using a calculator
2. Analyze financial data and reports from non-profit organizations
3. Prepare a budget for both personal and organizational use
4. Understand financial business functions of an organization

5. Understand how staffing relates to non-profit management

COURSE REQUIREMENTS

Attendance

The SLCC College Catalog states that, "Due to the nature of this nontraditional adult educational program, attendance in class is vital to receiving a quality educational experience. … Class attendance is expected and required. …Attendance will be taken during each of the total 20 hours or units that the course meets…. Only five total hour units of absences are allowed in this attendance policy." Three times tardy of up to 15 minutes will count as one unit of absence.

Assigned Work

Students are expected to turn in assigned work on the date that it is due.

MLA Format

Students are expected to use the MLA format for all written papers.

COURSE EVALUATION

The grade point system approved by the college will be used to assign a final letter grade. The final grade will be determined by the following criteria:

Quizzes on math concepts (4 @ 25 points each)	100 points
Written 2-page paper on discussions (4 @ 25 points each)	100 points
Written paper on site visit to non-profit (1 @ 50 points)	50 points
Completion of personal finance workbook (5 parts @ 25 points)	125 points
Attendance (5 sessions @ 5 points each)	25 points
Total	400 points

COURSE POLICIES

1. The student is expected to obtain additional information from internet sources as given by the professor.

2. The student is expected to spend 10-12 hours per week in outside class preparation, as indicated in the SLCC College Catalog.

3. The student is expected to be prepared to participate in discussion topics by reviewing them before class.

4. Students are expected to bring the calculators and all needed materials to every class session.
5. Students are expected to make their own arrangements for the site visit(s) to non-profit organizations.

6. Realizing that students may have come straight from work to attend this class, students may eat during the breaks and may eat small snacks during class as long as they are not disruptive to the class. Please turn off all cell phones and other non-academic electronic devices. Courtesy and a positive attitude toward others are expected.

7. Class breaks will be 10 minutes at the end of every hour of class. Students are expected to take their breaks and to be on time for the beginning of the academic units.

8. The professor reserves the right to modify this course plan as appropriate to the learning of the students. In no way will the change result in an increase in the student work load.

9. The professor recommends that communication be done by e-mail to the professor's SLCC address.

10. If you have a diagnosed learning disability, please contact the Director of the Student Learning Center for assistance.

GMA103N - REQUIRED TEXTS

The Total Money Makeover Workbook by Dave Ramsey. Thomas Nelson, Publisher. Latest edition.

Church Administration and Finance Manual: Resources for Leading the Local Church by Otto F. Crumroy, Jr., Stan Kukawka, and Frank M. Witman. Morehouse Publishing. Latest edition.

Tax Guide for Churches and Religious Organizations: Benefits and Responsibilities Under the Federal Tax Law. Internal Revenue Service, Tax Exempt and Government Entities, Exempt Organizations. (www.irs.gov)

OTHER REQUIRED

TI-83 Plus Calculator from Texas Instruments. An equivalent calculator must have financial functions.

Internet access. If using the college computer internet system, student must have a signed Technology Use Agreement on file with the college and a current internet password.

RECOMMENDED PUBLICATIONS

Bookkeeping for Non-profits: A Step-by-Step Guide to Non-profit Accounting by Murray Dropkin and James Halpin. Jossey-Bass, John Wiley & Sons, Publisher. 2005.

The Budget-Building Book for Non-profits: A Step-by –Step Guide for Managers and Boards by Murray Dropkin and Bill LaTouche. Jossey-Bass, John Wiley & Sons, Publisher. 1998.

Church and Clergy Tax Guide by Richard R. Hammar. Church Law & Tax Report/Christianity Today International. Updated annually. (Available online from www.churchlawtodaystore.com.)

The Church Guide to Financial Reporting, The Church Guide to Internal Controls, and The Church Guide to Planning and Budgeting by Richard Vargo. Church Law & Tax Report, Christian Ministry Resources. 1995. (Available as a package online from www.churchlawtodaystore.com.)

Financial Peace, Revisited by Dave Ramsey. Viking Publishers. 2003.

The Financial Peace Planner by Dave Ramsey. Penguin Books. 1998

Jesus, CEO: Using Ancient Wisdom for Visionary Leadership by Laurie Beth Jones. Hyperion. 1995.

The Laws of Money, the Lessons of Life: Keep What You Have and Create What You Deserve by Suze Orman. Free Press. 2003. (Suze Orman has written several books. She also has a television show on CNBC cable television and a monthly column in O, The Oprah Magazine.)

The Non-profit Kit for Dummies by Stan Hutton and Frances Phillips. Wiley Publishing. 2006. (Includes a CD.)

Personal Finance for Dummies by EricTyson. IDG Books Worldwide, Inc. 2000.

Rich Dad, Poor Dad: What the Rich Teach their Kids About Money – That the Poor and Middle Class Do Not! by Robert T. Kiyosaki. Warner Business Books.1998.

The St. Louis Post-Dispatch, Business section. Daily. (Almost all newspapers have a business section.)

The Total Money Makeover by Dave Ramsey. Thomas Nelson, Publisher. 2007. (Dave Ramsey also appears on Fox Business News cable television.)

Volunteer Service Booklet. Church Law & Tax Report. 1996. (A booklet of forms. Available online from www.churchlawtodaystore.com.)

The Wall Street Journal. Daily, except Sundays and holidays.

Zone of Insolvency: How Non-profits Avoid Hidden Liabilities and Build Financial Strength by Ron Mattocks. John Wiley & Sons, Inc. 2008.

RECOMMENDED WEBSITES

afpnet.org – Association of Fundraising Professionals. Donor Bill of Rights, research on giving.
allianceonline.org – Alliance for Non-profit Management, membership required
annualcreditreport.com - meets government requirements for a free personal credit report. Credit score may be purchased.
charitynavigator.org – in depth information about charitable organizations
churchlawtoday.com or churchlawtodaystore.com – books and training materials for churches
daveramsey.com – commercial site that has information about Dave Ramsey and his materials
guidestar.org – information about charitable organizations, free registration required
irs.gov – everything and every form you ever wanted courtesy of The Internal Revenue Service
ncna.org – National council of Non-profit Associations
non-profitquarterly.org – The Non-profit Quarterly
non-profitrisk.org –Non-profit Risk Management Center. Free info for non-profits.
non-profits.org – Non-profit FAQ. Info on many topics, including those from this class
oanda.com/convert – Oanda is a non-bank futures broker specializing in currency exchange
uscis.gov – United States Citizenship and Immigration Services, Dept of Homeland Security
stl.unitedway.org – Greater St. Louis United Way charitable organization. Includes UW financial reports.

TO THE STUDENT:

Thank you for taking this class. The course is offered in the five-week intensive Adults in Ministry format. Each class session is four hours long. Each of the five sessions for the Mathematics for the Non-Profit Professional course is divided into four fifty-minute units. Those units are:

Basic Math and Calculator Usage
Personal Money Management
Non-profit Management
Group Discussion

In order to make the best use of class time, the students are expected to review the topics to be discussed in each of the four areas before coming to class.

Basic Math and Calculator Usage

There is no required text for the math units. This syllabus contains the material needed to complete this part of the course requirements. The student will be responsible for downloading and printing the units and for doing the practice problems in the units. We will use the calculator every session. There will be four weekly quizzes on the math units beginning on the date of the second session.

Unit 1 – The Basic Operations of the TI-83 Calculator and Order of Operations
Unit 2 – The Math Menu of the TI-83 Calculator. Quiz on Unit 1.
Unit 3 - Percent Increase, Foreign Money Exchange, IRS Income Tax Forms. Quiz on Unit 2.
Unit 4 - Finance Menu on the TI-83 Calculator. Simple and Compound Interest. Quiz on Unit 3
Unit 5 – Miscellaneous Topics. Amortization, Credit Cards, Large Purchases. Quiz on Unit 4.

Personal Money Management

Before each class session, read the chapters in The Total Money Makeover Workbook that are assigned for that session. Do the exercises that are given in the chapters. You will be given evaluation points for having completed the work. There are, of course, no right or wrong answers to the questions. During class, we will discuss the concepts presented in the book along with current events that relate to the topic.

Unit 1 – Chapters 1, 2, and 3
Unit 2 – Chapters 4, 5, and 6
Unit 3 – Chapters 7, 8, and 9

Unit 4 – Chapters 10, 11, and 12
Unit 5 – Chapter 13

Non-Profit Management

Before each class session, read the chapters or sections in Church Administration and Finance Manual that pertain to the topic. There are also some internet web sites listed at the beginning of the units from which the student is expected to obtain information and be prepared to discuss. These web sites are current and by including them, we were able to avoid further textbook costs.

There are a series of questions listed for each unit that will be the basis for the lesson. The student is expected to review the questions and find answers in the given materials or from other reliable sources before class.

Unit 1 – The Non-profit Organization
Unit 2 – Planning and Budgeting
Unit 3 – Reporting
Unit 4 – Analysis
Unit 5 – Staffing

Group Discussion

The suggested discussion topics listed relate to the topics in the units on Non-profit Management. However, alternate topics may be suggested by students during the previous class meeting. Students are to reflect on the topics and do appropriate research or study prior to the class discussion in order that everyone can make a meaningful contribution to the discussion.

Depending upon the size of the class, the discussion group may be the entire class or a part of the class. In the event that there is more than one group, the composition of the groups and the group leaders will vary from one session to the next. It is not a requirement that all students speak on every topic, but it is hoped that students will want to participate.

It is expected that some topics will generate strong exchanges. It is expected that students will be courteous and respectful of others.

Discussion Reports. As a part of the course student evaluation, students are to present a written report in MLA format of no more than 2 pages at the beginning of the class session following the discussion. The report will include a brief overview of one topic that was discussed, points presented during the discussion, and personal thoughts on the topic as a result of the discussion and personal reflection. Long quotations are to be avoided. The final paragraph is to be a summary of the topic and conclusions. Papers presented after the due date will have a deduction

of 5 points per class session. All papers must be turned in no later than the beginning of the last class session. Grading of the papers will be based on the following: MLA form = 5 points, spelling and grammar = 5 points, Content = 15 points.

Unit 1 – The Non-profit Organization
Unit 2 – Planning and Budgeting
Unit 3 – Reporting
Unit 4 – Analysis
Unit 5 – Staffing

On-Site Visit to Non-Profit Organization

Students are to visit a non-profit organization for the purpose of learning about business management and practices as they are actually done. Select a 501(c)(3) organization, preferably a smaller one in your community, preferably not a church, and preferably one where you are not a member or a volunteer. Every student should select a different organization.

Read the "to the student" sections in the non-profit management units for clues as to what discover in the visit.
--Talk to the business manager or bookkeeper, a volunteer, a board member or others that may be knowledgeable about the organization.
--Obtain forms used to record and report transactions.
--Obtain an audit.
--Find out the answers to these questions:

What is the mission of the organization?
What is its history?
What are its goals?
Who does it help?
How many paid staff?
How many volunteers?
What are the income sources?
What are the expense areas?
Who does what?
How are decisions made, by whom?
Is it audited by an outside company?
What computer programs do they use to keep track of data such as attendance and bank accounts?
Do they have any major projects going on?
Do they do fundraising?
Tell us about…or How do you…? You get the idea.

Keep in mind that the organization may not be able to give you the information you request or may not be able to answer your questions satisfactorily. Do not pry and do not offer suggestions for improvement, especially if they do not ask. You may want to make more than one trip or even volunteer for a day. Your job is to be able to describe the organization and its management practices, particularly its financial practices.

Original research paper. Write about your visit to the non-profit.

--State the name of the organization, the date of the visit, and the people you talked with.
--Describe the organization and its functions.
--Review the flow of information and the specifics of how the organization is managed. -
--Include your own analysis of the organization's processes and your thoughts about how the organization could improve or be more successful.
--If you were running the organization, would you do anything differently?

The paper should be complete enough for someone who is not familiar with the organization to understand its processes. Avoid long quotations. Avoid overly ostentatious language. Do not include a works cited page, as you would in a traditional research paper. If you wish to include relevant documents that you obtain from the organization and to which you refer in your paper, you may include them in an appendix. However, such documents will not count as part of your written work.

The paper should be about 5-8 pages in length, MLA format. It is due the last session of class. Papers not in on time will have a deduction of 10 points per calendar day. Electronic only submissions will have a deduction of 10 points. Grading of the papers will be based on the following: MLA form = 5 points, spelling and grammar = 5 points, Content = 40 points.

MATH UNIT 1

TI-83 Calculator – Basic Operations

This outline is for instructional purposes only. The information for the outline was taken from the TI83-Plus Graphing Calculator Guidebook (1999). The TI-83 Calculator is a product of Texas Instruments, Inc. There are two problem sets in this unit.

Keyboard Zones

A. **Primary Keys** – black or blue with white markings or white with black markings. These are the keys you see as you first look at the entire keyboard.

The number keys (1, 2, 3, 4, 5, 6, 7, 8, 9, and 0) are in the center lower half of the keyboard. They are easy to identify since they are a different color from the other keys. The number keys also have a decimal point and a negative sign. The negative sign key is used only when the first number of a calculation is negative.

Above the 7 key is the comma key (,). Do not use the comma to enter values of a thousand or more. The comma key is used as a separator for lists of numbers.

The operation keys, add (+), subtract (-), multiply (×), and divide (÷) are on the right side column next to the number keys.

The Enter key is the bottom key in the column below the + sign. It is the key you press to get the answer or to make a selection from a menu.

The On key is the bottom key in the lower left column. That is the key you press to turn the calculator on.

The Clear key is at the top of the right column. It is used to erase the last entry or, when pressed two times, it will erase the entire screen.

The Arrow keys are in a circular grouping at the top right of the keyboard. The left and right arrows can be used to move back and forth on one line of an entry. The up and down arrows are used to move up and down in menus.

The Delete key (DEL) is on the top row, center of the keyboard. It is used to delete one symbol of an entry on a line, similar to the delete key on a regular computer keyboard.

The Mathematical key (MATH) is in the third row, left side of the keyboard. It is used to access mathematical functions such as changing fractions to decimals and vice versa.

The Application key (APPS) is in the third row, the second key from the left, next to the MATH key. This is the key we use to access the Finance menu.

There are other primary keys which we will talk about as we need them.

B. **2nd Keys** – Yellow, located in the upper left corner of the keyboard. The 2nd key activates the yellow choices. In order to access the functions written in yellow above the primary keys, you must first press the 2nd Key, and then press the key with the yellow choice written above it. Do not hold down the 2nd key. When you press the 2nd key, a blinking up arrow will appear on the screen. The process is similar to pressing the Shift key in order to get capital letters on a regular keyboard. If you press the 2nd key by mistake, press it again to return to the regular screen.

The Off key is one of the 2nd keys. It is the same key as the On key, located at the lower left corner of the keyboard. In order to turn the calculator off, first press the 2nd key (do not hold it down), then press the On key.

The Insert key (INS) is on the DEL key. If you have left out a value, move the cursor to the correct place, then press the 2nd, INS key then the value. The value will be inserted at the point of the cursor. Again, the insert key works the same way that the insert key on a regular keyboard works.

The QUIT key is a 2nd key located on the MODE key on the top row, just to the right of the 2nd key. When we are in a menu program, such as the finance program, you may exit the program by pressing 2nd, then QUIT. The finance menu entries will still be there when you return.

C. **ALPHA Keys** – Green, located just below the 2nd key on the upper left column of the keyboard. There are choices printed in green above the primary keys. Most of them are alphabetic letters.

The SOLVE key is the only green alpha key we will use. It is the alpha choice on the ENTER key at the lower right corner of the keyboard. It is used to obtain an answer to a finance menu question.

PROBLEM SET #1

Do these math problems on the calculator.

1. 3 + 5
2. 15-7
3. 74 x 67
4. 74 ÷ 10
5. 56.32 + 345.987
6. 479.003 – 12.999
7. 32.86 x 120.1
8. 869.34 ÷ 0.0045
9. 74.4 + 670.46 – 123.995
10. -44 + 75 – 100 (Ans. is neg.)
11. 42 x 24 x 0.1
12. 35 x 16 ÷ 5 (Do in order given)
13. 14/0 (calculator not happy)

Order of Operations, Using Parentheses
Please Excuse My Dear Aunt Sally

The algebra concept that you need to know is that it matters which of the operations (add, subtract, multiply, divide) is done first in a problem. For example, you would get the same answer if you did 12 + 75 as you would if you did 75 + 12. But, you would get a different answer if you did 35 ÷ 5 than if you did 5 ÷ 35. We have standardized the process so that everyone gets the same answer for the same problem.

The Order of Operations requires us to do 1) whatever is in parentheses first, 2) evaluate exponents, 3) multiplication and division in the order given from left to right, and finally, 4) addition and subtraction in the order from left to right. This process can be simplified to PEMDAS. The silly phrase that we use to help us remember the order is, "Please Excuse My Dear Aunt Sally". The calculator uses this convention when it evaluates expressions that are entered. Parentheses on the calculator are located above the 8 and 9 keys on the keyboard.

One more thing, in written work we sometimes omit the multiplication sign. If you see an expression such as 3(4+5), know that there is a times sign between the "3" and the "(". If the problem had a multiplication sign, it would appear as 3x(4+5). Since algebra often uses letters such as "x" in problems, the convention to drop the times sign is standard. Just for variety, you may also see the * used to mean multiply, especially on computer programs. The dot in the middle of a line as in 3 · 4 also means to multiply. (Yea!)
Also, we rarely use the division sign in written material since it can be easily confused with the subtraction sign. When a division sign is needed, we use the forward slash "/". For example,

14 ÷ 7 may be written 14/7.

Example 1: 3(4+5)

On the calculator, enter the problem as given. The details below show what happened.

3(4+5) = 3(9) do what is in parentheses first

= 27 multiply the values 3 and 9

Example 2: (4 + 6) / (1+7)

On the calculator, enter the problem as given. The details below show what happened.

(4 + 6) = 10 do what is in parentheses first

(1 + 7) = 8 do what is in parentheses first

10 / 8 = 1.25 divide 10 by 8

Example 3: $\frac{13(6-4+9) - 7(10*3+5)}{2*9}$

On the calculator, enter the problem with double parentheses as:

((13(6-4+9)-7(10x3+5))/(2x9) It's a grouping thing. The details below show what happened.

(6 – 4 + 9) = 11 do what is in parentheses first, add and subtract in the order given

(10*3+5) = 35 do what is in parentheses first by multiplying before adding

13(11) = 143 multiply first half of top part

7(35) = 245 multiply second half of top part

143-245 = -102 subtract top part. Top part is now finished.

2*9 = 18 an implied parenthesis here since it is alone below the division line

$\frac{-102}{18} = -5.666$ Final answer. Not pretty, but that happens sometimes.

PROBLEM SET #2

Do these math problems on the calculator. You will have to supply the parentheses as needed.

1. 14 + 6 – 8 * 2

2. 0/5

3. 1+2 * (3 + 5)

4. 4 – 1 – (5*2/5)

5. (45 – 17)*6 – 6(1 + 1)

6. 5/10 + ¼

7. 25/5 + 30*(3/6)*5

8. 6*3+4*8

9. $\frac{56 - (10*5+6) +2}{8}$

10. $\frac{4(3+5*5 – 2*4) + 0*26}{14 – (7*2)}$

End of Math Unit 1

PERSONAL MONEY MANAGEMENT
UNIT 1

In the administration of non-profit organizations, the leaders and others should have personal knowledge of money management. A good foundation in personal finance will be a good foundation for organizational finance. None of us can afford to ignore the role of money in our world. The better we understand money and how it works, the better we will be for ourselves and our organizations.

Leaders tend to manage other people's money the way they manage their own. Attitudes toward money on a personal level tend to carry over into actions on a professional level. If a leader's personal financial state is in shambles due to neglect or lack of knowledge or skills, then the organization may suffer the same fate. On the other hand, a leader who has his/her personal finances under control has a better chance of keeping an organization's finances under control.

Granted, a leader of people does not have to be an accountant. But, he/she does have to be able to talk the language and be able to hire the right people to do the right jobs and to know when the jobs are being done right and the organization's goals are being met.

This section of the class will concentrate on the personal aspects of financial management. Some of you are already good financial managers and will be a great support, some of you may need some knowledge about how money works, some of you may need to change a behavior or two in order to be more comfortable with money, and some of you may wish to use this section to help someone else with their money management problems.

Money Management and Self Discipline

Good money management requires discipline as well as knowledge. I encourage you to choose to do one or several of the following for at least two weeks, or better yet, for the duration of this class. You could also make up your own activities.

1. Make financial goals and remind yourself of them often.
2. Do not put any purchases on the credit card.
3. Pay every bill by the day after you receive it.
4. Contribute a regular percentage of all your income to the church.
5. Put a regular percentage of all your income into a savings account.
6. Start an IRA or add to it if you already have one.
7. Pay more than the minimum on every credit card statement you receive.
8. Have a financial planning meeting with the members of your household.
9. Review bank statements and billing statements the day they arrive.
10. Always know how much you have in the checking account.

Personal Money Management
Unit 1 – Chapters 1, 2, and 3

Source: The Total Money Makeover Workbook by Dave Ramsey. Thomas Nelson, Publisher.

annualcreditreport.com - meets government requirements for a free personal credit report.
Credit score may be purchased.

Chapter 1 - The Total Money Makeover Challenge
Chapter 2 - I'm Not *That* Out of shape: DENIAL
Chapter 3 - Debt is (Not) a Tool: DEBT MYTHS

To the student: If you have not checked your credit report in the last year, go to annualcreditreport.com to request a copy. The credit score is not included but may be purchased. Review it to check for errors and to become familiar with its contents. This is for your benefit, not to be turned in.

End of Personal Money Management Unit 1

NON-PROFIT MANAGEMENT

Unit 1 – The Non-Profit Organization

Source: IRS Tax Guide for Churches and Religious Organizations. And others.

To the student: Investigate these questions on your own before class meets. They will be the basis for this unit.

1. What is a non-profit organization?

2. Is a church or religious organization a non-profit organization?

3. What are the characteristics of a non-profit as compared to a for profit organization?

4. How many categories of non-profits are there?

5. How does a non-profit differ from a for-profit organization?

6. What legal papers must be filed to establish a non-profit organization? If so, with whom?

7. Does the non-profit organization pay taxes? Federal Income Tax, State Personal Property Tax, Sales Tax, Real Estate Taxes, Other taxes?

8. Does it file tax forms? If so, which ones?

9. Under what circumstances can a non-profit organization be required to pay taxes on its earnings?

10. Does the public have a right to see non-profit legal documents?

11. Can a non-profit have money left at the end of the year? If so, what does it do with the money?

12. Can a non-profit pay its workers? Does the organization deduct income taxes and FICA from its employees' pay? All employees?

13. Can a non-profit charge fees for services or products?

14. Is a non-profit tax supported? Can it be tax-supported?

15. Can a non-profit make investments? If so, what type?

16. Should non-profit organizations carry insurance? Property, liability, Directors and Officers (D&O) liability

17. Do organizations have "life cycles"?

18. What happens to the money and other assets in the event that the non-profit must be dissolved?

19. How are churches treated differently under the law from other non-profits?

20. What about political activities? Political candidates?

Glossary

To the student: Write out definitions or translations that are meaningful to you. Add to it as you learn more about non-profit organizations.

501 (c)(3) organizations –
FDIC –
UBIT –
IRS form 990 –
IRS form 990-T
IRS form 1023 –
FICA –
FUTA -
W-4 form -
W-2 form -
EIN -
I-9 form –

End of Non-Profit Management Unit 1

DISCUSSION TOPICS

Unit 1 – The Non-Profit Organization

1. What does the Bible say about money, debt, wealth?

2. Should a church go into debt in order to build a new facility or to expand an existing one?

End of Discussion Topics Unit 1

End of Class Session 1

MATH UNIT 2

TI-83 Calculator – Math Menu

In this lesson you will learn to use the MATH menu. The Math menu handles many of those tasks which many of us would rather not be bothered. Examples are changing fractions to decimals, or reducing fractions to lowest terms. It will even round off decimal numbers to the desired number of places. It will do many other things, but we probably don't need them, such as finding the cube root. This unit has 2 problem sets.

The MATH Menu Screen

Decimals to fractions. From the main screen, press the MATH key, left column, third key down. Across the top of the screen you will see the word "MATH" highlighted. The first menu item is also highlighted. It is "1:>Frac". This is the function that will convert whatever is on the main screen to a fraction. To exit the MENU screen at any time, press the 2nd key, then MODE (the QUIT key).

Example 1: Convert 0.45 to a fraction in simplest terms, a fraction that cannot be reduced down.

On the calculator's main screen type 0.45 and press the ENTER key.

Go to the MATH menu by pressing the MATH key. Item 1 is highlighted, so just press the ENTER key to select that function. The calculator will return to the main screen.

The line will read "Ans>Frac" followed by a blinking cursor. This just means that you are to verify that you want the calculator to perform that function. Press the ENTER key a second time.

The answer on the right side of the screen is "9/20".

Example 2: Convert 1.5 to a fraction in simplest terms.

Follow the steps given in Example 1.

Type 1.5 on main screen, press Enter.
Press MATH key. Select 1:>Frac. Press ENTER.
Press ENTER a second time to verify.
Answer appears. The answer is 3/2.

Fractions to Decimals. Press the down arrow key to get to the second menu item, "2:>Dec". This function will convert whatever is on the main screen to a decimal. Actually, the calculator will automatically convert 4÷5 to a decimal, so we will just play with its little memory.

Example 3: Convert 4/5 to a decimal.

On the main screen, type 4/5, press ENTER. The screen will show .8 as the answer.

Press MATH key. Convert the .8 to a fraction as we did in the other examples.
On the screen is displayed 4/5, which is what we want to show how this function works.

Press MATH key. Select 2:Dec, then press ENTER.
Press ENTER a second time to verify.
Answer appears. The answer is .8, just as we suspected.

At the bottom of the menu is item 7 followed by a down arrow. The down arrow indicates that there are more menu items on the next screen. The first two menu items, Frac and Dec, are the only two we will use in this class.

PROBLEM SET #3

Convert these decimals to fractions.

1.	0.36	5.	0.002	
2.	0.88	6.	(.34+.56-0.7)	
3.	1.6	7.	1.6	write on paper as a mixed number
4.	3.785	8.	3.785	write on paper as a mixed number

The NUM Menu Screen

You get to the NUM (or number) screen by pressing the MATH key, the using the right arrow key to highlight NUM at the top of the screen. When you do that, a different menu will appear. Likewise, there are other menus associated with CPX and PRB but we will not be using them.

Example 3: Round 1234.567251 to two decimal places.

The rounding function only works for decimal values, not for whole numbers.
The calculator uses the standard rule that if a number is 5 or greater, then we advance the previous number to the next higher value. The number of decimal places is counted from

the decimal point going to the right. In our example, there are 6 decimal places to the right of the decimal point.

Press the MATH key, and then select the NUM menu.
Use the down arrow to select "2:round(″ . Press ENTER.
"round(″ appears on the screen followed by a blinking cursor.

Enter the value given above after the left parentheses, then enter a comma, then enter the number 2 since we want the value rounded to two places after the decimal point, then enter the right parenthesis. Press ENTER. The entry should look as follows: round(1234.567251,2)

The value 1234.57 will appear on the screen.

Example 4: Which is greater, 7/8 or 7/9?
For this one, we need the MAX (maximum) function. The MAX function will only evaluate the greater of two values at a time, unless you want to use braces as follows in the MIN example 6.

Press the MATH key, and then select the NUM menu.
Use the down arrow to select "7:max(". Press ENTER.
"max(" appears on the screen followed by a blinking cursor.

Enter the two values given with a comma between them. Close parentheses. Press ENTER. The entry should look as follows: max(7/8,7/9)

The answer on the screen will be .875, the decimal equivalent of the answer.
Press MATH key, select MATH menu to convert the .875 to the fraction 7/8, the larger value.

Example 5: What is the smaller value of 0.78 and ¾?
We will use the MIN (minimum) function. It will also work with operations such as ¾.

Press the MATH key, select the NUM menu, select"6:min(".
On the screen, "min(" appears followed by the usual blinking cursor.
Enter the three values given with a comma separator. Close parentheses. Press ENTER.

The entry should look as follows: min(0.78,3/4)
The answer on the screen will be .75. You know how to convert this to the fraction ¾.

Example 6: What is the smallest value of 12, 34, 56, and 35?

We use the MIN function, but with a twist. We have to use the braces located in yellow above the parentheses keys and accessed from the 2nd key. Braces and brackets are grouping devices used in algebra when we do not want to use more and more parentheses to group long expressions. The calculator uses braces to indicate a list of more than two items.

> Press the MATH key, select the NUM menu, select the min function.
> When "min(" appears on the screen, enter {12,34,56,35} and close parentheses. Press Enter. The entry should look as follows: min({12,34,56,35})
> The answer on the screen will be 12.

Example 7: What is the smallest number that each of the numbers in a pair will divide into, the least common multiple? This is like finding the least common denominator in fraction problems only a whole lot easier.

> What is the smallest number that 2 and 5 will both divide into?
> NUM menu, "8:lcm("
> Enter: lcm(2,5) and press ENTER. Answer is 10.

Example 8: What is the largest number that will divide evenly into two numbers, the greatest common divisor? This is like reducing a fraction to its lowest terms, again only more fun.

> What is the largest number that will divide into both of 629 and 703?
> MATH key, NUM menu, "9:gcd("
> Enter: gcd(629,703) and press ENTER. Answer is 37.

So, using that bit of information, reduce the fraction 629/703 to lowest terms using the gcd we just found. Answer is 17/19. Of course, you could just enter the fraction and convert the decimal to a fraction.

PROBLEM SET #4

Use the NUM menu to answer these questions.

1. Round 23.4567 to 3 decimal places
2. What is the smaller of the two values: (3+4-1) and (2*3)
3. What is the smallest of these five values: 4, 17, 34, 2, and 8
4. Which has the greater value 5/8 or 7/9?
5. What number is the largest number that will divide into 285 and 456?

End of Math Unit 2

PERSONAL MONEY MANAGEMENT

Unit 2 – Chapters 4, 5, and 6

Source: The Total Money Makeover Workbook by Dave Ramsey. Thomas Nelson, Publisher.

Chapter 4 - The (Non) Secrets of the Rich: MONEY MYTHS
Chapter 5 - Ignorance and Keeping Up with the Joneses: TWO MORE HURDLES
Chapter 6 - Walk Before You Run: SAVE $1,000 FAST

End of Personal Money Management Unit 2

NON-PROFIT MANAGEMENT

Unit 2 – Planning and Budgeting

Sources: Church Administration and Finance Manual. And others.

www.1800net.com/nprc/fasb117.html - "Financial Statements of Not-For-Profit Organizations " by the Financial Accounting Standards Board

To the student:

1. Obtain a copy of a budget from a small non-profit organization or church, if possible. (Large organizations have budgets that are too detailed for our purposes. We want simple.)
2. Investigate these questions on your own before class meets. They will be the basis for this unit.

1. Should a non-profit be doing long range planning, especially where money is concerned? If so, for what?

2. Should a church have a budget? If so, for what purpose? If not, should it have some other process for money handling?

3. What is the purpose of a budget?

4. What time frame does the usual budget cover?

5. What do goals, attitudes, and priorities have to do with preparing a budget?

(Check out the mission statement of the organization before beginning budget preparation.)

6. Who should be involved in preparing the budget and to what extent?

7. What is a "Top-Down" approach to planning and budgeting?
Advantages and disadvantages.

8. What is a "Bottom-Up" approach to planning and budgeting?
Advantages and disadvantages.

9. How much time should be allowed to prepare a budget?

10. How much information does one need to prepare a meaningful budget?

11. What should be included in the preparation of a general budget?

12. It has been said to "underestimate the income" and "overestimate the outgo". What is the wisdom in that?

13. What types of income will there be? In what amounts?

14. What types of expenses will there be? In what amounts?

15. Should the Income total equal the Expenses total?

16. What if the Income is greater than the Expenses?

17. What if the Expenses are greater than the Income?

18. What policies should be put in place to monitor the income and expenditures – the cash flow?

19. Can an organization have several levels of budgets, as in one for each department and a bigger one for the division, and a bigger one, etc.?

20. What is the difference between "restricted funds" and "unrestricted funds" (in the income section)? (See website for fasb117

21. What is Zero-Based Budgeting? Advantages and disadvantages.

22. What is Incremental Budgeting, also known as line item or traditional budgeting? Advantages and disadvantages.

23. What is Program budgeting? Advantages and disadvantages.

The Budget Cycle

Budgeting Policies and Procedures – Steps, Who, Contents, Preparation, Approval
Budgeting Calendar – What is done by whom and by when?
Budget Preparation Materials to Groups –
Goals, Income and expense summary from preceding year
Forms to use, Guidelines, etc.
In small organizations, there might be only one set of materials.
Discussion by budget makers happens here.
Prepare Organization Draft Budget – Put it all together by budget person
Review of Draft Budget – by members of the team
Make Revisions – by main budget preparation person
Another Review – by all concerned
Adoption – by Board of Organization
Use Budget to Monitor Financial Activities as compared to the budget.

Glossary

Fiscal year –
Calendar year –
Budget – (dictionary version)
Balanced budget –
Depreciation –
Restricted vs. Unrestricted funds –
Line Items –
Indirect costs -

End of Non-Profit Management Unit 2

DISCUSSION TOPICS

Unit 2 – Planning and Budgeting

1. How can you resolve budget issues – in the planning process and after the budget has been adopted?

2. What would be the harm in borrowing from the restricted funds account to meet urgent current needs?

3. Should there be policies about what income is "acceptable" to the organization and what is not acceptable?

End of Discussion Topics Unit 2

End of Class Session 2

MATH UNIT 3

Now that you have the basic knowledge of how to use the TI-83 Calculator, we are going to try a few practical applications. There are 3 problem sets with this unit.

Percents Decoded

The TI-83 calculator does not do percents without some help on your part. The words, "Per Cent" means "per one-hundred". For us, that means to divide whatever by 100. So, 3% means 3/100 or 0.03 and 50% means 50/100, which is 0.50 as a decimal or ½ as a fraction. Decimals are usually preferred in today's age of technology. Since 100% = 1.00, anything over 100% would have a decimal value greater than 1.00.

Percentage Increase

The first example of percents relates to a budgeting item that you did for the non-profit unit. If a manager wanted to take each line item of the budget and increase it by a certain percentage, how would he/she do that?

Example 1: We know that last year's budget for salaries was $250,000. We would like to give everyone a 3% increase. How much should the new budget be adjusted for to meet that increase?

Old budget:	$250,000	
Add 3%	7,500	(3% of 250,000 = .03 x 250,000)
New budget:	$257,000	($250,000 + 7,500)

What other costs, if any, are associated with salaries and would have to also to be considered in the new budget?

Example 2. The cost of gasoline has gone from $2.39 per gallon to $4.05 per gallon in the past year. What percent increase does this represent?

To calculate the percent increase, first calculate the amount of increase, and then divide by the original value.

New Cost:	$4.05	
Old cost:	2.39	
Increase:	1.66	($4.05 – 2.39)
% increase:	0.6945 or 69.5% increase	(increase ÷ old cost = 1.66/2.39)

PROBLEM SET #5

Problem 1. The natural gas provider that we use for heating has just announced a 15% increase in the price that it charges for fuel. Assuming that we use the same amount of natural gas next year as we did this past year, how much should we allow for natural gas? Be sure to use actual costs instead of budgeted costs when making calculations.

This year's actual:	$14,500	
Add 15%	_____	(0.15 x 14,500)
New budget:	_____	

Problem 2. The attendance at Sunday morning service has gone from 180 people to 234 in just 6 months. What percent of increase does this represent?

Question to go with problem 2: When attendance increases, are there any other things that increase? Any costs that increase?

Missions Trips and Money Exchange Rate

The value of the United States dollar is dependent upon the amount of confidence the world has relative to other currencies. To find the current foreign exchange rate being offered for US funds, visit oanda.com or other similar web sites to get the latest conversions.

Example 3. You have been planning a trip to England for some time.
Suppose $1 United States = 0.51092 British Pounds (£). You plan to take checks with you in the amount of $500. How much would you get in British pounds when you arrived in England?

1 United States Dollar	= 0.51092 British Pounds (£)	
Multiply by $500	= 255.46 £	(0.51092 x 500)

Example 4. On your return, you have 50.00 £ left. You need to convert it back to U.S. dollars. The foreign exchange web sites have conversions back to U.S. dollars also.
Suppose that 1 British pound = $1.95724.

British Pounds	= 50.00	
Multiply by 1.95724	= $97.86	(1.95724 x 50.00)

You could get this same answer by dividing 50 £ by the British rate. That way, you would have to know only one rate. As in, 50 ÷ 0.51092 = $97.86.

PROBLEM SET #6

Problem 3. Pick a country, any country at all. Look up the currency exchange rate for that country as compared to the United States dollar. Decide how much money you will take with you. Calculate the amount of money in the foreign currency you would receive for your U.S. dollars.

Problem 4. Pick the same country. Do not spend 10% of your money in the country. Convert the foreign money back into U.S. dollars.

PROBLEM SET #7
U.S. IRS TAX Form 1040 A

Print off a copy of the IRS Tax return form 1040 A. This form is used by people with dependents, but who do not have enough deductions to file the "long" form. You do not need to print the entire instruction booklet, but you will need to refer to the tax return tables. (irs.gov)

Problem 5.
Family Smith consists of 1 husband, 1 wife, and two children ages 6 and 8. They cannot use form 1040 EZ since they have two dependent children. Everyone has a social security number and can complete the top part of the form satisfactorily. Your job is to calculate the rest of their return based on the following information. They will be taking the standard deduction.

Husband – age 42, earned $34,000 from one job and $12,000 from a second job.
His first employer took out federal income tax of 12% of his gross income. His second employer took out federal income tax of 7% of his gross income. (This is usually given to employees on a W-2 form, but I want you to use your calculator.) The employers also took out social security and Medicare and some health insurance premiums for the family, but these did not affect the tax return.

Wife – age 40, earned $25,000 from one job. Her employer took out federal income tax of 12% from her gross income. The employer also took out social security and Medicare but no other deductions. (On W-2 form, but you can figure it out.)

The two dependent children were in school and did not earn any money.

The family had a saving account that earned $27.00 in taxable interest for the year. The family had no other income for the year.

The husband contributed $2,000 to a Roth IRA, which was not tax deductible. The wife contributed $2,000 to a Traditional IRA, which was tax deductible.

They did not have any student loan deductions or other adjustments to gross income.

They will not be taking credits of those listed in lines 29-36. They did not make any estimated tax payments and will not be claiming a credit for Earned Income.

Look up the tax they should pay based on their taxable income. You will find this number in the instruction book tax tables.

Subtract this amount from what they actually did pay. _____

Did they get a refund? ____ If so, how much? _____

If they did not get a refund, how much do they owe? _____

End of Math Unit 3

PERSONAL MONEY MANAGEMENT

Unit 3 – Chapters 7, 8, and 9

Source: The Total Money Makeover Workbook by Dave Ramsey. Thomas Nelson, Publisher.

Chapter 7 - Lose Weight Fast, Really: THE DEBT SNOWBALL
Chapter 8 - Kick Murphy Out: FINISH THE EMERGENCY FUND
Chapter 9 - Be Financially Healthy for Life: MAXIMIZE RETIREMENT INVESTING

To the Student: List your retirement income sources as you know them to be now. Not to be turned in, just for you.

End of Personal Money Management Unit 3

NON-PROFIT MANAGEMENT

Unit 3 - Reporting

Source: Church Administration and Finance Manual. And others.

Tax Guide for Churches and Religious Organizations: Benefits and Responsibilities Under the Federal Tax Law. Internal Revenue Service, Tax Exempt and Government Entities, Exempt Organizations. (www.irs.gov)

stl.unitedway.org – Greater St. Louis United Way – financial reports.

irs.gov – IRS Forms 990 and 990-T and 941

uscis.gov – United States Citizenship and Immigration Services – Form I-9

To the student:

1. Talk with the business manager or bookkeeper to determine the flow of money from the moment the money comes in to the time it goes out or is set aside.

2. Obtain a copy of the financial statements that are prepared by your non-profit organization or church, if possible. Many smaller organizations will have only a simple one-page financial report showing revenues and expenditures, perhaps with corresponding budget amounts. An audit report would also be helpful for you to understand the other reports. The church may not have an audit, as may not smaller non-profits.

Other organizations will have more formal financial statements. These would include a Statement of Financial Position (Balance Sheet), a Statement of Activities (Income Statement, Profit and Loss Statement), a Statement of Cash Flows, and a Statement of Functional Expenses. Refer to United Way's financial statements as an example.

3. Investigate these questions on your own before class meets. They will be the basis for this unit.

Statement of Financial Position - The Balance Sheet

1. What are the main parts of a balance sheet?

2. What are included in Assets?
3. What are included in Fixed Assets?

4. What are included in Liabilities?

5. What is equity?

6. How do they all relate?

Statement of Activities
The Profit and Loss Statement - The Income Statement

7. What are the main parts of an Income Statement?

8. What is included in Income?

9. What is included in Expenditures?

10. What is Net Income or Loss?

Other Reporting Questions

11. In a church, how should contributions by attendees be handled?

12. How should expenditures (and authorization) be handled?

13. What is petty cash and how should it be monitored?

14. What reporting is required by law to be made to contributors?

15. How often should the treasurer give reports to the board of directors?

16. Who should approve spending and paying of bills?

17. What checks and balances can be set up to avoid errors and fraud?

18. How should special events and fundraising be handled?

19. What reports are required by the Internal Revenue Service?

20. Who does the payroll and what records are needed (and required)?
21. What should be the religious leader's role in the money process of the church?

22. What is an audit and why should (or should not) we have (or have not) one? What records can be subject to an audit? Some non-profits are required by the government to have an audit? Why would that be?

End of Non-Profit Management Unit 3

DISCUSSION TOPICS

Unit 3 – Reporting

1. Should church accounts be audited by an outside Certified Public Accounting firm? Should they be audited at all?

2. Should a leader of a church have access to records that include individual donations and pledges?

3. Since the government does not require organizations to submit budgets and balance sheets and income statements, should we require our non-profits to prepare them?

End of Discussion Topics Unit 3

End of Class Session 3

MATH UNIT 4

Another feature of the TI-83 Calculator is its ability to do finance problems. The Finance program is based on the formula for compound interest. Once you know how the menu works, you can calculate payments, future values, present values, and even interest rates. There are 3 problem sets in this unit.

Simple Interest

The calculator does not have a special function to calculate Simple Interest. The basic formula uses multiplication, which the calculator does very nicely. Simple Interest depends on the Principal (amount you start with), and the annual rate of interest earned (or rate) and time you have the money invested.
The formula is:

Interest = Principal x Rate x Time or $(I = P \cdot r \cdot t)$

Interest and principal are both given in dollar amounts. Rate is an annual percentage. Time is given in years or parts of years. The amount of interest earned each year is the same as every other year. Interest could also be the amount you have to pay someone to borrow their money, but let's not go there.

Example 1. I put $1,000 in an account paying 3% simple interest. I leave it in the account for 5 years. How much would I have at the end of 5 years?

Interest (I) is the unknown in this example, what we are going to calculate.
Principal (P) is $1,000, the amount I put in the account.
Rate (r) is 3% or 0.03.
Time (t) is 5 years.

Substituting the values into the formula, we get:

Interest = Principal x Rate x Time
I = 1,000 x 0.03 x 5
I = 150 (I earned $150 for leaving my $1,000 in the account for 5 years.)
So, altogether, with the interest added to the principal, I now have $1,150.

Example 2. I earned $200 last year in an account that paid simple interest. The rate of interest was 4%. How much did I put into the account? Start with the same formula.

Interest = Principal x Rate x Time

200 = P x 0.04 x 1	substitute into formula
200 = P x 0.04	multiply numbers on right side together
$\frac{200}{.04} = P$	divide "both sides" by .04 to get the value of P
5,000 = P	I put $5,000 in the account for 1 year and earned $200 in interest.

PROBLEM SET #8

Problem 1. How much interest would the church earn in 2 years on an investment that paid simple interest of 2.3% if it invested $140,000?

Problem 2. What rate of interest would the church have to earn if they wanted to make $10,000 interest in one year on an investment amount of $140,000?

Compound Interest

The issue with Simple Interest on a very practical level is that the interest money earned is still in the account doing nothing. It should be earning interest also. Therefore, we will concentrate on compound interest, interest earning interest. Most investment resources operate this way. Some pay interest that is compounded on a daily rate, some on a continuous rate. Computers make most things possible. By hand, the formulas are very complicated.

Press the APPS (applications)key on the TI-83 Calculator.
The APPLICATIONS menu appears. There may be several, but select FINANCE.
The CALC menu appears on the screen.
Select menu item 1:TVM Solver.
The TVM Solver will calculate everything for us. All we have to do is to know what values to put where.

TVM is finance jargon for "Time Value of Money", meaning that money changes value over time. This may be due to the interest it earns while on deposit or due to inflation which causes the value of money (its buying power) to go down. Money is a very fluid thing, always in motion.

When you open the TVM Solver application, there will be several variables with which we become familiar. We will go through an example.

N = the total number of payments. For example, if you buy a car with payments every month for 4 years, you would enter 4*12 (yes, it will do the math) or 48.

I% = the annual interest rate. Enter the rate as you read it; it does not have to be converted. For example, if the interest rate on the car you are financing is 6.2%, then enter 6.2.

PV = present value, what something is worth now. For example, if the amount you are financing to buy the car is $23,000, then enter 23000 (no commas) into the PV space.

PMT = the amount of each payment for the duration of the loan. Since we are finding the amount of the payment in our example, enter 0 (zero) into the PMT blank. We'll come back to it when it is time to calculate the payment in our ongoing example.

FV = future value, what something will be worth at some later date. In our example, the car will be paid for at the end of the 4 years, so we enter 0 (zero) in this blank also.

P/Y = Periods Per Year, accounting periods. In our example, you will be making 12 equal payments in each of the 4 years, so enter 12.

C/Y = Compoundings Per Year, the number of times the compounding takes place during the year. For most situations, as in our example, the number of compoundings will be the same as the number of periods per year, 12 in our example. In some cases, a person may put money into a savings account every day, but the bank adds interest only at the end of the month. In that case, the number of periods would not be the same as the number of compounding.

PMT:END BEGIN This indicates whether the payment is being made at the end or the beginning of the accounting period. END is highlighted. For our purposes, this is satisfactory.

Putting it all together with our ongoing example, which I am now calling Example 3, the TVM Solver menu looks like this (here, in two columns):

N=48	FV=0
I%=6.2	P/Y=12
PV=23000	C/Y=12
PMT=0	PMT:END

Since we want to find the payment,
use the arrow keys to move the cursor to the zero on the PMT line. The cursor will blink.
Press the green ALPHA key, let it up, press the ENTER key.

Answer will appear. The answer is $542.27. It is being shown with a negative sign, which indicates that money going out of your pocket gives you less wealth and is, therefore, a negative action. Ignore the negative sign.

PROBLEM SET #9

Problem 3. Your church wants to put an addition to the main building. It is estimated that the cost (PV) needed to finance after all the initial donations come in will be $250,000 and that the cost of financing will be 5%. The payments will be for 20 years, payable in monthly installments. How much will the monthly payments be?

Problem 4. Use the same example as in Problem 3, but change the number of years to 15. How much would the monthly payments be if financed for 15 years instead of 20?

Problem 5. How much in interest could be saved if the building were paid for in 15 years rather than paying for it in 20 years? Use the answers to problems 3 and 4. The guide questions below to help you arrive at the answer.

a. How much will the church have to pay back if using the 20 year plan?
Monthly payment from problem 3 *20 years*12 months per year = _____

b. How much will the church have to pay back if using the 15 year plan?
Monthly payment from problem 4 * 15 years*12 months per year = _____

c. Subtract answer to part b from answer to part a = _____

d. How much more per month did the church have to pay on the 15 year plan compared to the 20 year plan in order save the amount of money in part c? _____

Example 4. If I put $1000 (PV) into an account paying 2.3% annual interest, compounded monthly, and leave it there for 10 years, without adding to it or taking away from it, how much would I have at the end of the 10 years (FV)? PMT = 0, since we are not making payments.

N= 120	FV = 0 (amt to calculate)
I% = 2.3	P/Y = 12
PV = 1000	C/Y = 12
PMT =0	PMT: END

Use the arrow keys to move to the zero on the FV line. Press ALPHA, and then ENTER.
The answer is $1,258.32.

Example 5: If I make payments of $200 per month to myself for 5 years, and put the money into an account paying 5%, how much will I have at the end of 5 years?

N= 5*12=60	FV = 0 (amt to calculate)
I% = 5	P/Y = 12
PV = 0	C/Y = 12
PMT =200	PMT: END

Answer: I would have $13,601.22, $1,601.22 of which is interest my money earned.

Example 6. I would like to buy a new TV in 2 years. How much would I have to save per month at 3% interest in order to have $1,500 for the TV?

N= 12*2=24		FV = 1200
I% = 3		P/Y = 12
PV = 0		C/Y = 12
PMT =0	(to find)	PMT: END

Answer: A mere $48.58, of which I had to contribute only $1,165.92; the account came up with the rest.

PROBLEM SET #10

Problem 6. If you save $25 per week (or $25*52 weeks ÷12months = $108.33 per month), for 15 years or until you retire, in an account that pays 4.5% interest, how much would you have at the end of the 15 years?

Problem 7. If you don't save $25 per week for 15 years, how much will you have at the end of the 15 years?

Problem 8. You see how this entire process works. Make up a problem of your own. Something you are interested in.

End of Math Unit 4

PERSONAL MONEY MANAGEMENT

Unit 4 – Chapters 10, 11, and 12

Source: The Total Money Makeover Workbook by Dave Ramsey. Thomas Nelson, Publisher.

Chapter 10 - Make Sure the Kids Are Fit Too: COLLEGE FUNDING
Chapter 11 - Be Unltrafit: PAY OFF THE HOME MORTGAGE
Chapter 12 - Arnold Schwarzedollar, Mr. Universe of Money:
BUILD WEALTH LIKE CRAZY

End of Personal Money Management Unit 4

NON-PROFIT MANAGEMENT

Unit 4 – Analysis

Source: The Church Guide to Financial Reporting, by Richard Vargo. Church Law & Tax Report, Christian Ministry Resources. 1995. (Available as a package of three guides online from www.churchlawtodaystore.com.) *Sorry, your text does not include financial analysis*.

To the student:

1. You will need the financial reports from the last session.
2. You will also need your calculator.
3. Read and study the materials on Ratios that are included in this unit.
4. Investigate these questions on your own before class meets. They will be the basis for this unit.

1. How do you as a leader or a lay person know if your church or organization is doing well?

2. Does the organization have enough in reserve to meet 3-6 months of obligations?

3. Do you know how much 3-6 months of money reserves would be?

4. What are the non-monthly obligations that must be met? Do you know when they are due? Insurance, for example.

5. How do you plan for unexpected maintenance bills, such as a broken water pipe?

6. What is the effect of restricted funds on the ability to meet current cash flow needs?

7. What is meant by "liquidity"?

8. Can your organization afford to increase the salaries of its employees? Or hire additional ones? Does it have to budget for any other costs of an employee besides the salary?

9. How has the organization increased or decreased its revenues over the past five years?

10. How far in advance does your organization plan for a major construction project?

11. How does your organization finance major projects such as a new wing on the church?
12. If you borrow, do you know for sure you can make the mortgage payments in addition to the usual expenses?

13. If you save, do you know how much you will need and the amount of time it will take to get the funds?

14. What happens to the assets (money, building, equipment) if the organization must dissolve or chooses to cease operations? Is there a policy about that possibility? Should you even think about dissolving the organization?

What is a Ratio?

A ratio is a comparison of two values, usually written as a fraction, but often as a decimal or a percent.

There are ratios other than the ones given in this unit, but you can get the idea of what they are and how they can benefit your organization from those presented. You could even form your own analysis ratios, depending on what you wanted to know. Most audit firms will compare your organization to others in the same field to determine how well your organization is doing relative to others.

To get a clearer picture of what is really happening in an organization, base your analysis over several months or a year. The annual report would be a good place to start since the data is based on an entire year's worth of receiving and spending money. You might also want to begin

to prepare charts of trend lines over the next few years, charting the financial data of income and expenses for future decision making. If historical reports are available, then use them also. (Spreadsheet software programs such as Excel are very useful.)

Some Ratios of Interest to Non-Profit Professionals

1. *Unrestricted Cash Received to Total Cash Received* – Shows whether the organization can pay its expenses.

$$\frac{\text{Unrestricted Cash Received}}{\text{Total Cash Received}}$$

Example:

Contributions received in June = $34,560
Amount restricted in June = $6,500 (donors wanted to send kids to camp)
Unrestricted amount = $28,060 ($34,560 - $6,500)
Ratio = $\frac{28,060}{34,560}$ or about or 81% of the contributions could be used to meet expenses.

The organization will have to decide if this is a sufficient percentage to meet general obligations and to meet contributor's wishes.

2. *Total Spending Related to Unrestricted Cash Received* – Shows whether the organization is living within its means, which is a good thing.

$$\frac{\text{Total Spending}}{\text{Unrest. Cash Rec'd}}$$

Example:

Total spending in June = $30,124
Unrestricted amount = $28,060
Ratio = $\frac{30,124}{28,060}$ or about 1.07 or 107%.

This month the organization spent more than it took in. Hopefully, the extra expense had been planned for and was been taken from cash reserves. This is where a long-range plan and disciplined use of funds are valuable to the organization. If not, then what? In general, if this ratio is 100% or less, then the income can cover the expenses.

3. *Total Giving Related to Total Pledges* – Shows the amount of actual support of the members.

$$\frac{\text{Total Giving}}{\text{Total Pledges}}$$

Example:

For the new building project, members pledged a total of $1,250,000.
After three years, actual giving for the new building was $995,000.

Ratio = $\frac{995{,}000}{1{,}250{,}000}$ or 0.796 or almost 80% support in three years.

It is up the organization to decide if this is a "good" number or not.

4. *Debt Ratio* – Shows the extent of the organization's debt as compared to the value of its assets. Information can be obtained from the Balance Sheet.

$$\frac{\text{Total Current Liabilities + Long-term Debt}}{\text{Total Assets}}$$

Example:

Total Current Liabilities = $4,306
Long-term Mortgage Balance = $72,400
Current Assets = $4,941
Fixed Assets (Facilities and Equip't) = $203,000

Ratio: $\frac{\$4{,}306 + \$72{,}400}{\$4{,}941 + \$203{,}000}$ or $\frac{\$76{,}706}{\$207{,}941}$ or 0.37 or 37%

In general, any value less than 1.0 or 100% is considered to be good - the smaller, the better. We want the value of assets to be greater than the value of the liabilities. Any ratio greater than 1.0 or 100% is not considered good. Such a ratio would indicate that there is more debt than the organization could cover in the unfortunate event of its demise.

5. *Break-Even Analysis* – The point where the cost of the activity equals the income produced by the activity.

If we disregard the cost of fixed costs, such as the electricity used in a building already being paid for by the organization and cleaned by a person on staff, then the project costs and project

income can be simplified. Ignoring the fixed costs, the equation describing how a project can break even becomes Cost = Income.

If the cost is greater than the income, then the project loses money. If the income is greater than the cost, then the project makes money. In many non-profit organizations, volunteers work for free, which greatly reduces the cost.

Example: Spaghetti Supper Fundraiser (a very simplified version)

Costs (not including donations)	
Food and beverages	$1,449.60
Paper plates and other paper products	238.50
Publicity flyers, tickets	70.00
Total Cost	$1,758.10
Income	
Adult tickets 265@$7.00	$1,855.00
Child tickets 87@$4.00	348.00
Donations	50.00
Total Income	$2,253.00

The project would have had to make $1758.10 in order to break-even with expenses. In this example, Income > Costs, therefore the project made a profit. (Yea!)

The profit is calculated by subtracting the costs from the income.

Income =	$2,253.00
Costs =	1,758.10
Profit =	$494.90

When deciding whether or not to do a project, first prepare a budget that estimates the costs and the expected income, then analyze both to make a decision. In the analysis, you should also consider the value of probable donations that would reduce the overall expenses. In the above example, members of the group might donate desserts or beverages. Break-even analysis is not too difficult, but necessary, as is all planning. In finance, surprises are generally not a good thing, especially the bad kind of surprises.

End of Non-Profit Management Unit 4

DISCUSSION TOPICS

Unit 4 – Analysis

1. Why do people make donations to the church and other non-profit organizations?

2. What do you think of the Donor Bill of Rights, as created by the Association of Fundraising Professionals? (affpnet.org)

3. Can the techniques of financial analysis for organizations apply to small groups as well as large, even to the family unit?

4. What kind of analysis could be used on fundraising activities such as phone-a-thons and mailings?

5. Since special fundraising events cost about 1.3 times as much to produce as it brings in (charitynavigator.org), why would organizations hold fundraising events?

End of Discussion Topics Unit 4

End of Class Session 4

MATH UNIT 5

For this last session, we will use Excel, a computer spreadsheet program, to demonstrate some of the financial principals we have been learning in this class. The computer uses the same formulas as does the calculator but has the advantage of being able to show the whole problem at once, rather than line by line. This will be a demonstration lesson, since you may or may not be familiar with Excel. However, I think you will be able to understand the concepts. There will be no assignment attached to this lesson.

Topics

1. Amortization Schedules. These are payment schedules that work much like a checkbook. They can be used to keep track of payments and balances. Large payment schedules, such as those for house mortgages and car loans fit into this category. You will see that changing the timing on a larger payment makes a difference in the total amount of interest you pay. For example, a larger payment early in the loan repayment cycle will have a bigger effect than the same payment made late in the cycle. This is one of the effects of the compound interest formula.

2. Credit Card Payments. The credit card companies require that a minimum monthly payment be made in order to remain in good standing. We can show you just how long it would take to pay off the balance of, say $500, at 18% interest, by making only the suggested minimum monthly payment. Answer: almost 5 years, with $212 paid in interest.

3. Car Buying. Which is better, to buy a car with 0% interest or to take the rebate? We will make some assumptions about your good credit rating and use some current newspaper advertisements and current financing rates to make the decision. What about the gas price guarantees or other incentives used to get you to buy a car? Or anything else, for that matter?

4. Professor's Choice.

End of Math Unit 5

PERSONAL MONEY MANAGEMENT

Unit 5 – Chapter 13

Source: The Total Money Makeover Workbook by Dave Ramsey. Thomas Nelson, Publisher.

Chapter 13 - Live Like No One Else: REACH THE PINNACLE POINT

To the Student: How did you do on your Money Discipline activities?

End of Personal Money Management Unit 5

NON-PROFIT MANAGEMENT

Unit 5 – Staffing

Source: Church Administration and Finance Manual: Resources for Leading the Local Church by Otto F. Crumroy, Jr., Stan Kukawka, and Frank M. Witman. Morehouse Publishing

Church and Clergy Tax Guide by Richard R. Hammar. Church Law & Tax Report/Christianity Today International. (Available online from www.churchlawtodaystore.com.)

Volunteer Service Booklet. Church Law & Tax Report. 1996. (A booklet of forms. Available online from www.churchlawtodaystore.com.)

To the student:

1. Talk with the business manager or bookkeeper or executive director of your organization to determine the number and types of paid positions, the number and types of volunteer positions. If possible, obtain the salary ranges of the various paid positions.

2. Ask for copies of the non-profit's incorporation documents. If copies are not possible, then just ask to see them and take notes on what you read.

Investigate these questions on your own before class meets. They will be the basis for this unit.

1. What are the IRS reporting requirements for each of the *people* who have the following positions in the church? (We are not talking about businesses such as the utilities or food services.)

Include money related items such as salaries or wages, social security, Medicare, housing, mileage or car, medical, retirement, other, bonuses, gifts from Board, gifts from church members, gifts from vendors, gifts from public, substitute preaching, non-church employment, vacation, sick leave, other monetary benefits.

The Clergy -
Non-Clergy Paid Personnel
    Office -
    Custodial –
    Other -
Contractors –
    Regular –
    Occasional –
Board Members –
Volunteers –
    Regular –
    Occasional –
Other –

2. Relating to question 1, what are the IRS reporting requirements of the *church* for each of the positions listed?

3. What is a "Love" offering?
    What are the reporting requirements for a person receiving one?
    What are the responsibilities of the church that sponsors or allows a love offering?

4. In a non-church non-profit organization, what are the IRS requirements for reporting salaries and benefits for similar positions to those mentioned in question 1?

5. If the church or the employee is unsure about the reporting responsibilities, where can it/he/she get help or reliable advice?

6. What precautions should the church take before allowing a person to be an employee of the church?

7. What precautions should the church take before allowing a person to be a volunteer of the church?

8. Are the precautions the same for all non-profits?

9. What should be kept in an employee's personnel file?

10. How can a church or other non-profit determine the "appropriate" compensation for its employees?

11. Are there laws against giving an employee too high a salary?
What exactly is "too high"?

12. What is meant by Incorporation for the non-profit? Why would a church or non-profit want to file incorporation papers?

13. What other legal things affect a church or non-profit?

14. What are the three major documents that a church or other non-profit must have for incorporation?

15. Are any of the church's or non-profit's documents open for public inspection?

Glossary

EEOC –
OSHA –
Fair Labor Standards Act –

End of Non-Profit Management Unit 5

DISCUSSION TOPICS

Unit 5 – Staffing

1. Should there be policies regarding gifts to the clergy, to the board members, to others? If so what types of policies would be appropriate? If not, why not?

2. Should the organization provide the pastor or others with retirement benefits, other than social security where required?

End of Discussion Topics Unit 5

End of Class Session 5

End of Mathematics for the Non-Profit Professional
GMA103N

Thank you for choosing Saint Louis Christian College