# **Debit Card Banking**



# Lesson 11

# Lesson Eleven Concepts

- Introduction to debit card banking
- > Calculating service charges for using a debit card
- Recognizing various features of point of purchase transactions and ATM usage

# **Debit Card Banking**

Banking or debit cards are the ultimate in convenience. More than 34 million banking cards are in circulation among an adult population of 21.8 million. Canadians love their banking cards using them more than 2.8 billion times in 2004. That's an average of 88 times a second for every hour of every day.

In 2001, consumer tracking research conducted by Interac Association indicated that, for the first time ever, Interac Direct payment has surpassed cash as Canadian's preferred way to pay.

**Direct payment** means that the purchase of an item or service is paid for immediately by electronically transferring money from the buyer's account into the seller's account.

The Plus ATM system allows access to bank accounts from many international ATM's that also offers the Plus ATM system.

ATM (Automated Teller Machine) or ABM (Automated Banking Machine) Shared Cash Dispensing allows Canadians to obtain cash or a cash advance using their banking, credit or charge card from any Automated Banking Machine (ABM) not belonging to their financial institution, 24 hours a day, seven days a week

- There are now over 47,000 Automated Banking Machines located across the • country
- Of 22 million adult Canadians, 86%, (18 million) Canadians hold a banking • card

Bank machines offer many or all of the following characteristics:

- Withdraw cash •
- Deposit cash or cheques •
- Pay registered bills, including credit card bills
- Transfer funds between accounts
- Check account balances
- Change your Personal Identification Number (PIN)
- Select your telephone and online banking password
- Purchase prepaid cellular and long distance
- Update bankbooks



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Most financial institutions (banks, credit unions, etc..) allow its own members to withdraw cash from it's own bank machines without added service charges.

When a person withdraws money using their debit card in an ATM that does not belong to their own bank they are *subject to two service charges*.

- One from their own bank
- One from the bank that owns/operates the ATM being used

### Example 1

Calculate the service charges of doing banking using an ATM and Interac purchases during the month. David belongs to the CIBC bank and used a CIBC bank machine to withdraw cash 12 times and to pay bills 7 times. He also withdrew cash from a non-CIBC ATM 6 times. He also used his debit card to purchase items 21 times during the month. The account information is given below:

### Account Information

- Up to 20 transactions for \$6.50 per month and \$0.75 for each transaction over 20.
- \$1.50 for each transaction from an non-CIBC ATM

# Solution

12 CIBC ATM withdrawals + 7 bill payments + 6 non-CIBC ATM withdrawals + 21

= 36 transactions in total\_\_\_\_\_\_ first 20 transaction are a fixed \$6.50

36 - 20 = 16 transactions each subject to \$0.75 service charge

\$6.50 per month transaction charge

6 transactions each subject to \$1.50 service charge

Total cost =  $6.50 + 16 \times 0.75 + 6 \times 1.50$ 

= 6.50 + 12.00 + 9.00 =\$27.50



- 1. For each situation calculate the monthly service charges.
  - a. Calculate the service charges of doing banking using an ATM and Interac purchases during the month. Kathy belongs to the RBC bank and used a RBC bank machine to withdraw cash 17 times and to pay bills 12 times. She also withdrew cash from a non-RBC ATM 13 times. She also used her debit card to purchase items 17 times during the month. The account information is given below:

- Up to 15 transactions for \$7.25 per month and \$0.60 for each transaction over 15.
- \$2.00 for each transaction from an non-RBC ATM

b. Calculate the service charges of doing banking using an ATM and Interac purchases during the month. Erin belongs to the BMO bank and used a BMO bank machine to withdraw cash 10 times and to pay bills 3 times. She also withdrew cash from a non-BMO ATM 4 times. She also used her debit card to purchase items 12 times during the month. Erin managed to keep her monthly balance above \$2000 for the entire month. The account information is given below:

- Up to 6 transactions for \$3.75 per month and \$0.75 for each transaction over 6
- \$1.50 for each transaction from an non-BMO ATM
- All BMO based transactions are free if minimum balance of \$1500.00 maintained in the account at all times



- 1. For each situation calculate the monthly service charges.
  - a. Calculate the service charges of doing banking using an ATM and Interac purchases during the month. Jill belongs to the BMO bank and used a BMO bank machine to withdraw cash 14 times and to pay bills 6 times. She also withdrew cash from a non-BMO ATM 8 times. She also used her debit card to purchase items 22 times during the month. Jill's was unable to maintain a balance above \$1500 for the entire month. The account information is given below:

- Up to 20 transactions for \$7.50 per month and \$0.50 for each transaction over 20
- \$1.50 for each transaction from an non-BMO ATM
- All BMO based transactions are free if minimum balance of \$1500.00 maintained in the account at all times

b. Calculate the service charges of doing banking using an ATM and Interac purchases during the month. Devon belongs to the RBC bank and used a RBC bank machine to withdraw cash 7 times and to pay bills 2 times. She also withdrew cash from a non-RBC ATM 5 times. She also used her debit card to purchase items 9 times during the month. The account information is given below:

- Up to 10 transactions for \$4.50 per month and \$0.70 for each transaction over 10.
- \$1.50 for each transaction from an non-RBC ATM

- 2. Why would a person choose an ATM that belongs to a bank other than the bank they belong to?
- 3. Some stores offer cash back after a purchase. Name one advantage and one disadvantage of getting cash back?
- 4. Give 4 services that an ATM can offer.

# **Credit Cards**



# Lesson 12

# Lesson Twelve Concepts

- Introduction to credit card application forms
- Characteristics of various credit cards

# Credit Cards

Credit cards allow a person to buy items without paying for them immediately. A credit card is considered a way of borrowing money for a short period of time. Most credit cards charge a higher than usual annual interest rate.

Some stores have their own credit cards that can be used to purchase at their own stores.

Across Canada there are 3 major credit card suppliers. These three companies are Visa, Mastercard and American Express.

All companies that offer credit cards have application forms. Below is an example of what one such application could look like.

Personal Details	
Title: Mr.	
First	Initial Last
Applicant's Name: Noah	R. Benton
Day	Month Year
Date of Birth: 27	Jan 1968
Mother's Maiden Name (for security purposes):	
Employment Status: <b>Full 1</b>	ime
What is your <u>occupation</u> GMV	Vorker
What is your Social Insurance Number?	23 533
Home Address	
Street: 34 Val	ncouver St.
City: <b>Picke</b>	ring Province: Ontario
Postal Code: L5T 3	E5
Home Phone Number: ( 905	) 555 1111
Residential status of the above address: <b>Owne</b>	er
If 'Other' selected, specify here:	
Month	Year
When did you move to this	March 2000

# Credit card application...continued.

- Information About Your Job
Are you self-employed? (You may be required to send us your Notice of Assessment.) 🔿 Yes 💿 No
Employer Name: General Motors
Business Phone Number: ( 412 ) 4454512 Ext.
Month Year
When did you start working there? January 1997
Income and Expenses Information
Your Employment Income (Before Taxes): \$ 65000 O Monthly Annually
Your Other Household Income (Before Taxes):  10000 O Monthly Annually
Your Housing Payment: \$ 950.00 Solution Annually
If you have a mortgage, what financial institution holds your mortgage?
What institution do you bank with? <b>CIBC</b>
What type of accounts do you have? 🚿 Chequing 🔘 Savings 🔘 Both



- 1. Use the above application to answer the following questions.
  - a. Why do you think the application asks the type of work and how long the person has been employed with that employer?
  - b. Why is housing information important to the company potentially issuing the credit card?
- 2. Other than credit cards what are other ways of purchasing and paying for them later?

# Choosing a Credit Card

Credit cards often come with conditions and applicants can often choose a credit card that best suits their credit card needs.



- 3. Use the credit card information below to answers the following questions.
  - a. What is the annual fee on the credit card?
  - b. What does it mean by minimum credit limit?
  - c. What is the credit card's annual interest rate?
  - d. What do you think the purpose of additional cards would be?

# CIBC Aventura Gold VISA Card

# Information you need to know: . 1500 1234 56

- Minimum credit limit: \$5,000
  - Annual fee: \$120
  - Additional Cards: \$50 each, up to 3 available
  - Current regular annual interest rate: 19.5%



a. The following is an example of a general credit card application.

Personal Details —			
Title:	Mr.		
	First	Initial	Last
Applicant's Name:	Noah	<i>R</i> .	Benton
	Day Month	Year	
Date of Birth:	27 Jan	1968	
Mother's Maiden Name (for security purposes):	Cao		
Employment Status:	Full Time		
What is your occupation	GM Worker		
What is your Social Insurance Number?	234 123 533		

- a. Why do you think employment status and occupation important to the credit card company?
- b. Do you think date of birth is important information to the credit company? Explain.

– Home Address		
Street:	34 Vancouver St.	
City:	Pickering On	tario
Postal Code:	L5T 3E5	
Home Phone Number:	(905) 555 1111	
Residential status of the above address:	Owner	
If 'Other' selected, specify here:		
1	1onth Year	
When did you move to this address?	March 2000	

- c. Why is the applicant's home address important to the credit card company?
- d. Why do you think residential status is important to the credit card company?

1	– Information About Your Job –––––––––––––––––––––––––––––––––––
	Are you self-employed? (You may be required to send us your Notice of Assessment.) $\bigcirc$ Yes $\textcircled{S}$ No
	Employer Name: General Motors
	Business Phone Number: ( 412 ) 4454512 Ext.
	Month Year
	When did you start working there? January 1997

- e. Why do you think the credit card company wants the employer's name and phone number?
- f. Why do you think the credit card company cares about how long the applicant has worked for his/her employer?

Income and Expenses Information ————			
meetine and Expenses information			4
Your Employment Income (Before Taxes):	\$ 65000	O Monthly	🚿 Annually
Your Other Household Income (Before Taxes):	\$ 10000	O Monthly	🖉 Annually
Your Housing Payment:	\$ 950.00	Monthly	🔘 Annually
If you have a mortgage, what financial institution holds your mortgage?	CIBC		
What institution do you bank with?	CIBC		
What type of accounts do you have?	Chequing 🔘 Sav	vings 🔘 Both	

- g. Why do you think the credit card company wants to know the amount of employment income?
- h. Why do you think the credit card company wants to know the applicant's monthly housing payment?

2. Use the information for the following two credit cards to answer questions following.





- a. What is the annual fee for each of the credit card offers?
- b. Why do you think the annual fee varies from card to card?
- c. What is the minimum credit limit of the Mosaik mastercard?
- d. What is the maximum credit limit of the American Express?\_\_\_\_\_
- e. What are the annual interest rates for each of the credit cards?\_\_\_\_\_

3. Suppose you are charged interest on an item that you purchased on a credit card. Which of the two cards would be the best to use? Explain.



4. Credit limits are the maximum you are allowed to owe on the card at any one time. You can request a credit limit increase. If you do, the card issuer checks to see if you owe money on other loans and credit cards before giving the increase. Why do you think the card company does this?



# Lesson Thirteen Concepts

- > Understanding factors that influence the cost of a loan
- Calculating interest on a loan
- Calculating the total cost of a loan
- Interpreting amortization tables
- Understanding the effect on interest by the length of time in the loan
- Recognizing advantages and disadvantages of borrowing

# Loans

A **loan** is when money is borrowed with a legal promise that it is to be repaid. People take out loans to buy something specific like cars, vacations, RRSP's, home improvements, etc... Some people also take out loans to consolidate debt, which means to take out a loan to pay off other existing debts from other loans and/or credit card debt. Consolidating debt can take many various payments and make just one payment.

The cost of a loan varies depending on several factors:

- The amount of the loan
- The length of the loan
- The amount of the regular payments
- The rate of interest
- The number of regular payments paid in a year

# Example 1

How much is the cost of a loan when \$18 500 is borrowed and monthly payments for four years of \$430 are made to pay off the loan.

### Solution: 4 x 12 = 48 monthly payment for the loan

Total cost of the loan	= 48 x 430
	= \$20 640

# Example 2: What is the total amount of interest paid on a 5 year loan of \$20000 with monthly payments of \$404.57? Solution: $5 \times 12 = 60$ monthly payments

Total cost of the loan	= 60 x 404.57 = \$24274.20
Total interest paid	= Total cost of loan – Amount of original loan = 24274.20 – 20000 = \$4274.20



- 1. For each of the situations below, what is the total cost of loan and the amount of interest paid on each loan.
  - a. \$3000 loan for 1 year with monthly payments of \$258.20

b. \$12000 loan for 3 year with monthly payments of \$370.53

c. \$8500 loan for 4 year with monthly payments of \$220.51

d. \$35000 loan for 5 year with monthly payments of \$658.89

e. \$5000 loan for 2 year with monthly payments of \$241.25

#### Amortization Table

An amortization table (schedule) is a detailed chart showing

- The equal payments required to repay a loan
   The portion of each payment that is principal
   The portion of each payment that is interest

	• \The b	a	lance rer	na	aining af	te	r each p	a	yment i	S	paid }		
		ner Te	o Amount \$	1	000.00			5					
	Annual	Inte	erest Rate		7.00 %					bor	oan Summar	y e	96 63
Loan Period in Years 1 Scheduled Number of Payment \$													
Number of Payments Per Year 12 Actual Number of Payments												112	
ļ	Start	Da	te of Loan	9	8/1/2005	~			Tota	ΙE	arly Payments	s	
Pmt No.	Payment Date		Beginning Balance		Scheduled Payment		Total Payment	~	Principal		¥ Interest		Ending Balance
1	10/1/2005	\$	1,000.00	\$	86.53	\$	86.53	\$	80.69	\$	5.83	s	919.31
2	11/1/2005		919.31		86.53		86.53		81.16		5.36		838.14
3	12/1/2005		838.14		86.53		86.53		81.64		4.89		756.50
4	1/1/2006		756.50		86.53		86.53		82.11		4.41		674.39
5	2/1/2006		674.39		86.53		86.53		82.59		3.93		591.80
6	3/1/2006		591.80		86.53		86.53		83.07		3.45		508.72
7	4/1/2006		508.72		86.53		86.53		83.56		2.97		425.16
8	5/1/2006		425.16		86.53		86.53		84.05		2.48		341.12
9	6/1/2006		341.12		86.53		86.53		84.54		1.99		256.58
10	7/1/2006		256.58		86.53		86.53		85.03		1.50		171.55
11	8/1/2006		171.55		86.53		86.53		85.53		1.00		86.02
12	9/1/2006		86.02		86.53		86.02		85.52		0.50		0.00

**Principal** is that amount of the payment that is subtracted from the original loan. Support Questions

- 2. Refer to the amortization table given below.
  - a. How many years is it going to take to pay off this loan?
  - b. How often do the payments occur?

- c. How much will the loan have cost in total?
- d. What do you notice about the amount of interest as more payments occur?

e. What do you notice about the principal as more payments occur?

Pmt No.	Payment Date	 Beginning Balance	Scheduled Payment		Extra Payment	Total Payment	Principal	Interest		Ending Balance
1	10/1/2005	\$ 4,500.00	\$ 204.55	\$	-	\$ 204.55	\$ 172.68	\$ 31.88	\$	4,327.32
2	11/1/2005	4,327.32	204.55	-	-	204.55	173.90	30.65	-	4,153,43
3	12/1/2005	4,153,43	204.55		-	204.55	175.13	29.42		3,978,30
4	1/1/2006	3,978.30	204.55		-	204.55	176.37	28.18		3,801.92
5	2/1/2006	3,801.92	204.55		-	204.55	177.62	26.93		3,624,30
6	3/1/2006	3,624.30	204.55		-	204.55	178.88	25.67		3,445.43
7	4/1/2006	3,445.43	204.55		-	204.55	180.15	24.41		3,265.28
8	5/1/2006	3,265.28	204.55		-	204.55	181.42	23.13		3,083.86
9	6/1/2006	3,083.86	204.55		-	204.55	182.71	21.84		2,901.15
10	7/1/2006	2,901.15	204.55		-	204.55	184.00	20.55		2,717.15
11	8/1/2006	2,717.15	204.55		-	204.55	185.30	19.25		2,531.85
12	9/1/2006	2,531.85	204.55		-	204.55	186.62	17.93		2,345.23
13	10/1/2006	2,345.23	204.55		-	204.55	187.94	16.61		2,157.29
14	11/1/2006	2,157.29	204.55		-	204.55	189.27	15.28		1,968.02
15	12/1/2006	1,968.02	204.55		-	204.55	190.61	13.94		1,777.41
16	1/1/2007	1,777.41	204.55		-	204.55	191.96	12.59		1,585.45
17	2/1/2007	1,585.45	204.55		-	204.55	193.32	11.23		1,392.13
18	3/1/2007	1,392.13	204.55		-	204.55	194.69	9.86		1,197.44
19	4/1/2007	1,197.44	204.55		-	204.55	196.07	8.48		1,001.37
20	5/1/2007	1,001.37	204.55		-	204.55	197.46	7.09		803.92
21	6/1/2007	803.92	204.55		-	204.55	198.86	5.69		605.06
22	7/1/2007	605.06	204.55		-	204.55	200.26	4.29		404.80
23	8/1/2007	404.80	204.55		-	204.55	201.68	2.87		203.11
24	9/1/2007	203.11	204.55		-	203.11	201.67	1.44		0.00



- 1. For each of the situations below, what is the total cost of loan and the amount of interest paid on each loan.
  - a. \$4500 loan for 3 year with monthly payments of \$137.92
  - b. \$9000 loan for 2 year with monthly payments of \$400.92
  - c. \$6500 loan for 2 year with monthly payments of \$293.98

0.00

Pmt	Payment Date		Beginning Balance		Scheduled		Total Payment		Principal		Interest		Ending Balance
	Date	_	Datatice	_	i ayinciic	_	i aymene	_		_	inter eat	_	Datarice
1	10/1/2005	\$	1,750.00	\$	155.90	\$	155.90	\$	137.67	\$	18.23	\$	1,612.33
2	11/1/2005		1,612.33		155.90		155.90		139.10		16.80		1,473.23
3	12/1/2005		1,473.23		155.90		155.90		140.55		15.35		1,332.69
4	1/1/2006		1,332.69		155.90		155.90		142.01		13.88		1,190.67
5	2/1/2006		1,190.67		155.90		155.90		143.49		12.40		1,047.18
6	3/1/2006		1,047.18		155.90		155.90		144.99		10.91		902.19
7	4/1/2006		902.19		155.90		155.90		146.50		9.40		755.70
8	5/1/2006		755.70		155.90		155.90		148.02		7.87		607.67
9	6/1/2006		607.67		155.90		155.90		149.57		6.33		458.11
10	7/1/2006		458.11		155.90		155.90		151.12		4.77		306.99
11	8/1/2006		306.99		155.90		155.90		152.70		3.20		154.29
12	9/1/2006		154.29		155.90		154.29		152.68		1.61		0.00

2. Refer to the amortization table given below.

- a. How much is each regular payment?
- b. How many years is it going to take to pay off this loan?
- c. How often do the payments occur?
- d. How much will the loan have cost in total?
- e. How much interest was paid in total?
- f. What do you notice about the principal as more payments occur?



3. Brianna is trying to decide whether to take out a 1 year loan or a 2 year loan for \$4000. Both have monthly payments and the same annual interest rate. The amortization tables for both are given below.

								1	Year Loan
Pmt No.	Payment Date	Beginning Balance	Scheduled Payment	Extra Payment	Total Payment	 Principal	Interest		Ending Balance
1	2/1/2005	\$ 4,000.00	\$ 349.81	\$ -	\$ 349.81	\$ 319.81	\$ 30.00	\$	3,680.19
2	3/1/2005	3,680.19	349.81	-	349.81	322.20	27.60		3,357.99
3	4/1/2005	3,357.99	349.81	-	349.81	324.62	25.18		3,033.37
4	5/1/2005	3,033.37	349.81	-	349.81	327.06	22.75		2,706.31
5	6/1/2005	2,706.31	349.81	-	349.81	329.51	20.30		2,376.80
6	7/1/2005	2,376.80	349.81	-	349.81	331.98	17.83		2,044.82
7	8/1/2005	2,044.82	349.81	-	349.81	334.47	15.34		1,710.35
8	9/1/2005	1,710.35	349.81	-	349.81	336.98	12.83		1,373.38
9	10/1/2005	1,373.38	349.81	-	349.81	339.51	10.30		1,033.87
10	11/1/2005	1,033.87	349.81	-	349.81	342.05	7.75		691.82
11	12/1/2005	691.82	349.81	-	349.81	344.62	5.19		347.20
12	1/1/2006	347.20	349.81	-	347.20	344.60	2.60		0.00

#### 2 Year Loan

Pmt No.	Payment Date	Beginning Balance	Scheduled Payment	Extra Payment	Total Payment	Principal	Interest	Ending Balance
1	10/1/2005	\$ 4,000.00	\$ 182.74	\$ -	\$ 182.74	\$ 152.74	\$ 30.00	\$ 3,847.26
2	11/1/2005	3,847.26	182.74	-	182.74	153.88	28.85	3,693.38
3	12/1/2005	3,693.38	182.74	-	182.74	155.04	27.70	3,538.34
4	1/1/2006	3,538.34	182.74	-	182.74	156.20	26.54	3,382.14
5	2/1/2006	3,382.14	182.74	-	182.74	157.37	25.37	3,224.76
6	3/1/2006	3,224.76	182.74	-	182.74	158.55	24.19	3,066.21
7	4/1/2006	3,066.21	182.74	-	182.74	159.74	23.00	2,906.47
8	5/1/2006	2,906.47	182.74	-	182.74	160.94	21.80	2,745.53
9	6/1/2006	2,745.53	182.74	-	182.74	162.15	20.59	2,583.38
10	7/1/2006	2,583.38	182.74	-	182.74	163.36	19.38	2,420.02
11	8/1/2006	2,420.02	182.74	-	182.74	164.59	18.15	2,255.43
12	9/1/2006	2,255.43	182.74	-	182.74	165.82	16.92	2,089.60
13	10/1/2006	2,089.60	182.74	-	182.74	167.07	15.67	1,922.54
14	11/1/2006	1,922.54	182.74	-	182.74	168.32	14.42	1,754.22
15	12/1/2006	1,754.22	182.74	-	182.74	169.58	13.16	1,584.63
16	1/1/2007	1,584.63	182.74	-	182.74	170.85	11.88	1,413.78
17	2/1/2007	1,413.78	182.74	-	182.74	172.14	10.60	1,241.65
18	3/1/2007	1,241.65	182.74	-	182.74	173.43	9.31	1,068.22
19	4/1/2007	1,068.22	182.74	-	182.74	174.73	8.01	893.49
20	5/1/2007	893.49	182.74	-	182.74	176.04	6.70	717.45
21	6/1/2007	717.45	182.74	-	182.74	177.36	5.38	540.10
22	7/1/2007	540.10	182.74	-	182.74	178.69	4.05	361.41
23	8/1/2007	361.41	182.74	-	182.74	180.03	2.71	181.38
24	9/1/2007	181.38	182.74	-	181.38	180.02	1.36	0.00

- a. What is the monthly payment for the 1 year and 2 year loan?
- b. What is the total cost of the loan for both the 1 and 2 year loans?

- c. How much interest was charged for the 1 and 2 year loans?
- d. Why is there more interest on the 2 year loan?
- e. Why might a person choose a 2 year loan even if it cost more?
- 4. Describe the effect on the amount of the payment **and** the total cost of the loan for each of the following situations.
  - a. The interest rate changes to 7.9% from 6.5%.
  - b. A down payment of \$2500 was paid.
  - c. The length of the loan was increased to 4 years instead of 3 years.
- 5. Give two advantages and two disadvantages of borrowing.