2021-2022 CATALOG

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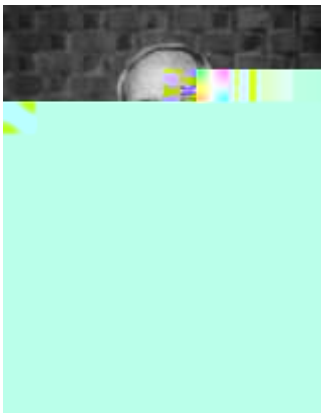

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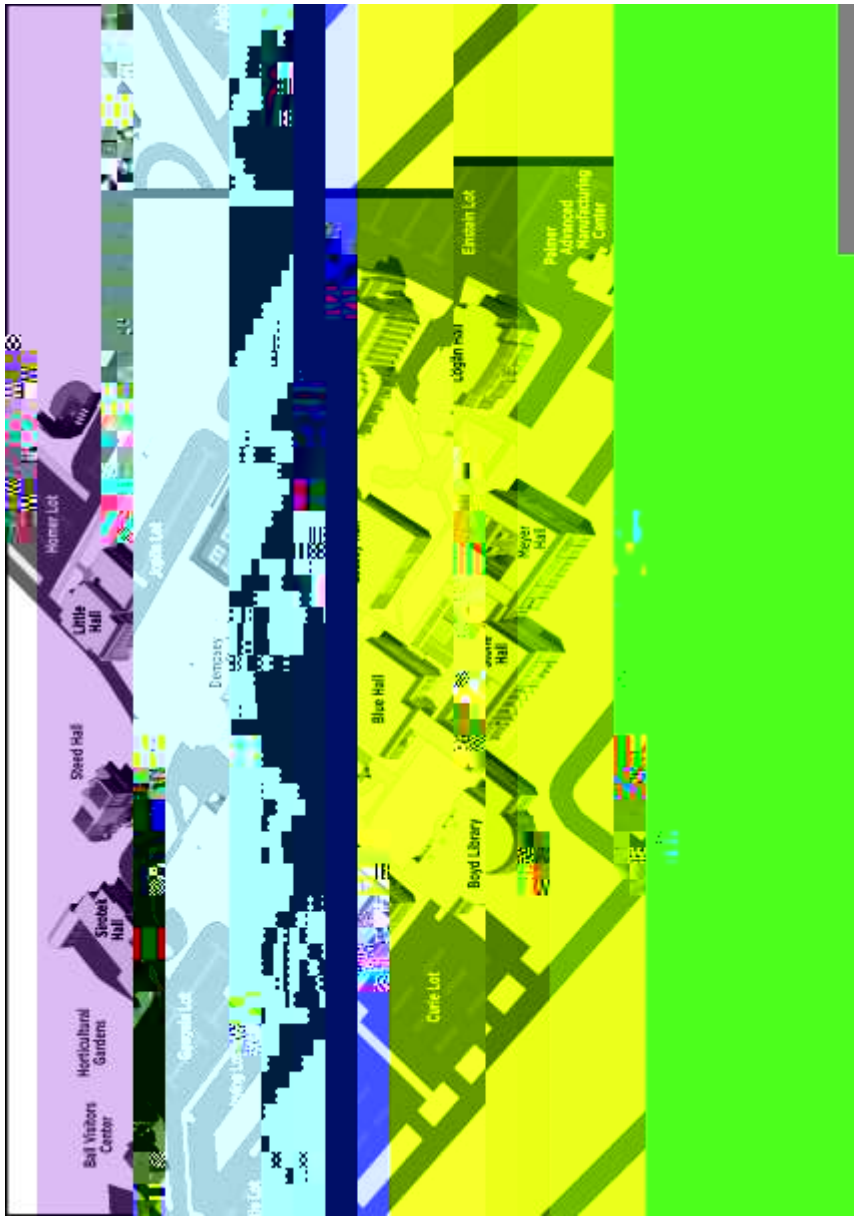
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DGPLWWHG

RI 5HFRUGV

+RPH6FKRROHG6HHNHUQHJ 6WXGHQ

6WXGHQWV ZKR KDYH JUDGXDWHG IURP D KRPH GRFXPHQWDWLRQ IRU DGPLVVLRQ

- 3URRI WKDW KRPH KDV EHHQ ZLWK WKH 1& 3XEOLF (GXFDWLRQ 7KLV FDQ EH D FHUWLILFDWH KWWS ° LILHGWKR

WKHSVDHWKZLDV\ DYDLODEOH RQOLQH DW ZZZ VDQGKL
VFKRRO

78,7,21 $1')((6

5HVHDUFK 6WDWXV IRU 7XLWLR

$OO UHVLGHQF\ GHWHUPLQDWLRQV DUH PDGH E
6HUYLFH EDVLV IRU GHWHUPLQLQJ WKH DSSU
FRQWLQJHQW XSRQ WKH VWDWXWRU\ GHVLJQDWLRQ RU
SXUSRVHV 7R TXDOLI\ DV D UHVLGHQW IRU WXL
D OHJDO UHVLGHQW DQG UHPDLQ D OHJDO UHV
PRQWKV LPPHGLDWHO\ SULRU WR D FDOHQGDU
EHWZHHQ OHJDO UHVLGHQFH DQG UHVLGHQFH
³WZHOYH PRQWKV OHJDO UHVLGHQFH´ PHDQV
&DURLQD ,Q SDUWLFXODU LW PHDQV PDLQWD
LQGHILQLWH RSSRUWXQLW\ WR ³PDLQWDLQLQJ D PHU
DERGH LQFLGHQW WR HQUROOPHQW LQ DQ LQVW
RI HVWDEOLVKLQJ IDFWV WKDW MXVWLI\ FODVVI
WRVLWXDWH WXLWLRQ SROLFLHV LQ WKH FODVVL

)RU PRUH

DFFLGHQW LQVXUDQFH FRYHUDJH OLEYULDVUL\HVDQG
VSRQVRUHG HEQWWKRHY6HWXQHHQDWGSLVSORRFLDWRUQUDGX
LQWUDPXUDO DQG LQWHKUHRIRFRAKDHEVHH IDWQHLWFH
DQG RWKHU DQFHLOODWHG VFRXGQHQBWWH¼[!S"HXQ"G"LXW"X(uD+V^

- +($
- +80
- 3('
- 3+< $
- 36<
- 6&,
- 63$

6WXGHQWV LQ D+HQG1WKV6LQJHQHR JUDPV H[FHG C&H

DWWDFKHG WR WKH ZEVLWH RI WKH DFFLGHQW RU RWKHUZLVH SRVWHG RQOLQH RU VKDUHG ZLWK RWKHUV

- $ GURS ER[LV ORF

5HIXQG RI 7XLWL6RVQDWHG5HHXHQG 3

7KH UHIXQG SROLFLHV RI WKLV VWRUH DUH RXOLQHG EHORZ LQ GHWDLO S

)HGHUDO 5H\IXQG 3ROLF

7KH)HGHUDO 5HIXQG 3ROLF\ DSSOLHV WR DOO VW
DLG IXQGV XVXGLQJ WKRVH ZKR TXDOLI\ IRG WKH VW
DERYH 7KLV SROLF\ UHTXLUHV WKH VFKRRO WR G
D VWXGHQW KDV HDUQHG 7KH HDUQHG DPRXQW
QXPEHU RI FODVV GD\V SULRU WR WKH GDWH RI Z
PXVW EH UHWXUQHG WR WKH VWXGHQW E\ WKH VWXGH
DQ\ IHGHUDO DVVLVWDQFH XVHG WR SD\ IRU WKH FRXUVH

5HIXQGV ZLOO EH DOORFDWHG E\ ODZ DFFRUGLQJ

/RDQV	*UDQWV
)HGHUDO 8QVXE '	)HGHUDO 3HOO
)HGHUDO 6XEVLGL	)6(2*
)HGHUDO 3HUNLQ'	7($&+
)HGHUDO DDDD

678'(17 5(&25'6

7KH SHUVRQDO UHFRUGV RI VWXGHQWV DQG 5HJLVWUDWLRQ

DZDUGHG WR VWXGHQWV VXFFHVVIXOO\ FRPSOHWL
LQ ZKLFK WKH\ DUH HQUROOHG

7R EH HOLJLEOH [illegible] WKH
- 6XFFHVVIXO [illegible] FULWHULD DV SUHVF &DWDORJXH [illegible] DW WKH WLPH RI [illegible] KDYH LQWHUUXSWLRQ LQ HQUROOPHQW IURP VWXG\ZR R\HDUV WKH\ ZLOO EH VXEMHFW WR UHTXLUHPHQWV [illegible] LQWR WKH SURJUDP
- (DUQ D PLQLPXP RI D JUDGH SRLQW DYHUD RI

6WXGHQWVSV\ WRZULWHDGHWDLOHG DQG DVVR

),1$1&,$/ $,'

)LQDQFLDO DVVLVWDQFH DW 6&&&NLQJVDLXGHQWV
TXDOLILHG SURJUDPV WKURXJK JUDQWV\VFKR
HPSOR\PHQW $VWXGHQWV DVVLVWDQFHRQLDQE
D VLQJOH W\SH RI DVVLVWDQFH RU D FRPELQDWL
RI QHHG DQG HOLJLELOLW\ UHTXLUHPHQWV $LG P
FROOHJH IHGHUDO DQG VWDWH DJHQFLHV\XGHQW
RU WKH VWXGHQW¶V IDPLO\ LV FRQVLGHUHG SUL
HGXFDWLRQDO H[SHQVHV)LQDQFLDO DVVLVWDQFH
VKRXOG EH FRQVLGHUHG RQO\ DV D VXSSOHPHQW
IDPLO\ $OSHSURVDLQHQJ WR ILQDQFLDO DLG UHJXO
DYDLODEOH IRU YLHZLQJ LQQWKRQ)LQDQUHEVL\LG
ILQDQFLDO DLG LVFRZHUGHVHEDVHG DLVVVWR VWXG
HQFRXUDJHG WR DSSO\OI\RDVILSRDQEDOH DLG DV HD

)LQDQFLDO $LG 3URJUDPV

)HGHUDO 3HOO *UDQW

7KH)HGHUDO 3HOO *UDQW3URHUDP LVWXGKHQWDLL
SURJUDP 3HOO JUDQWV DUH DZDUGHG WR KHO
FXUULFXOXP SURJUDPV SD\ IRU WKHVHGXQW LR
PD\ UHTXLUH UHSD\PHQW LI WKH VWXGHQW GRHV
VWXGHQWHOLJLEOH WR UHFHLYH WKH)HGHUDO 3HO
\HDUV RU WZWHPHVHPHVWHUV RI FRPELQHG H
LQVWLWXWLRQV HQUROOPHQW LV7RRSOLFDWHG
D)HGHUDO 3HQW\UDQWV VWXGHQWV WR FRPSOHWH WKH)U
)HGHUDO 6WXGHQW $LG)$)6$ 7KH JUDQW DPRXQ
JRYHUQPHQW DQG DZDUGHG EDVHG RQ QHHG 6WX
DLG SURFHVV SULRU WR WKHLU ODVW GDWH &@€€&

GHWHUPLQHG E\ &XKUHQWLQWWLWWLWWL

DFDGHPLF SURJUHVV WR FRQWLQXH UHFHLYLQJ D

(QGRZHG DQG 'RQRU 6FKRODUVKLS

6&& RUV PDQ\ HQGRZ•PHVV WRE{Â LSVK •LHVV %HV

- 'HPRQVWUDWH ILQDQFLDO QHHG
- 0DNH VDWLVIDFWRU\ DFDGHPLF SURJUHVV
- 1RW EH LQ GHIDXOW RQ D IHGHUDOO\ VXEV
- 1RW RZH D IHGHUDO UHIXQG RU HQUROOPHQW D WHUP RI HQUROOPHQW
- 1RW KDYH EHHQ FRQYLFWHG RI LOOHJDO GUXJ IHGHUDO ILQDQFLDO DLG

)HGHUDO $LG (QUROOPHQW &dÀ V

\HD$UVWXGHQW RKDH\UY3LHHOZOKLVDQW

DGPLWQLDWRU 7KH GHFLVLRQ RW XGKHQ3YLFV
DQG LV QRW DSSHDODEOH WR WKH 'HSDUWPHQ

5HJDLQGJOLWLEOLW

,I 6&& GHQLHV D VWXGHQW FRQWLQXHG 7LWOH
WKH FLUFXPVWDQFHWKHVFXGHQWDEZRRHDWW
&RPPXQLW\ &ROOHJH ZLWKRXW IHGHUDO RU
ILQDQFLDO DLG VHFLFHLEOLFRPSRQHWLRQ RI D
KLKHUXEVHTXHQW ZULWWHQ UHTXHVW WR WKH)
7LWOH ,9 +($ SURJUDPH DSSURYHG WKH VWXGI
HOLJLELOLW\ IRU WKHEDYHODLGQDPDWJ
EHJLQQLQJ ZLWK WKH SD\PHQW SHULRG LQ ZKI
UHTXLUHPHQWV

9HWHUDQV %HQHILWV 3URJUDP

0RQWJRP,H%LO6HOHFWHG 5HV6HUYH 0*,%

7KH 0*6% SURJUDP PD\ EH DYDLODEOH WR D VWXG
RI WKH 6HOHFWHG 5HVHUYH 7KH 6HOHFWHG 5HVH
1DY5HVHUYH $LU)RUFH 5HVHUYH 0DULQH &RUSV
5HVHUYH DQG WKH $UP\ 1DWLRQDO *XDUG DQG \
EHQHILW PD\ EH XVHG IRU DSSURYHG GHJUHH DQG
5HPHGLDO GHILFLHQF\ PDQGDWRU\ SURJUDPV FRXUVH
FLUFXPVWDQFHV

3RVW*, %LO&KDSWHU

7KH 3RVW*, %LOO SURYLGHV XS WR PRQWKV RI HGXF

EHQHILWV PD\ EH XVHG IRU DSSURYHG GHJUHH
5HPHGLDO GQG(LLHQFVKHU FRXUVHV PD\ EH DS
FLUFXPVWDQFHV

9RFDWLRQDO 5HKDELOLWDWLRQ (PSOR

7KH 9HWHUDQV %HQHILWV DQG 7UDQVDFWLRQ
SURYLGHV SURYLVLRQV IRU WKH &KDSWHU *, %LOO RI
DQG 95 (EHQHILFLDULHV &KDSWHU DQG &
DOORZHG WR DWWHQG WKHLU FRXUVH V RI H
WXLWLRQ DQG IHHV WKH EHQHILFLDU\ RU WKH
D &HUWLILFDWH RI (OLJLELOLW\ &HUWLILFDWH RI
ZLOO QRW LPSRVH D SHQDOW\ RU SD\PHQW UHT
ODWH PRUH WKDQ GD\V SD\PHQWV 9$ PD\
PXVW EH PDGH QR ODWHU WKDQ WKH ILUVW

9$:RUNVWXG\ 3URJUDP

:RUN

LQIRUPDWLRQ RU WR VFKHGXOH DQ DSSRLQWPHQW
FDPSXV DW RU VWXGHQWV PD\ DOVR
DSSRLQWPHQW DW WKH +RNH &HQWHU E\ FDOOL

&DUHHU 'HYHORSPHQW

7KH &DUHHU 'HYHORSPHQW SURIHVVLRQDOV SU
JUDGXDWHV IRU D VXFFHVVIXO WUDQVLWLRQ L
WUDLQLQJ WR HQVXUH FRPSHWHQF\ LQ WKH
FRPPXQLFDWLRQ VNLOOV SURIHVVLRQDOLVP
LQWHUYLHZLQJ VNLOOV DQG &DUHHU 5HVRXUFH
SURYLGHV FDUHHU PDWHULDOV WR DVVLVW VWX
FDUHHU FRPSHWHQFLHV

&DUHHU 6HUYLFHV

6WXGHQW FDUHHU VHUYLFHV DUH DYDLODEOH
VWXGHQWV YLVLW 7KH RIIHUHG DUH FDUHHU D
VWUDWHJLHV FDUHHU FRXQ@•W J €V

&DPSXV 'LYHUVLW\ DQG ,QFOXVLRQ

7KH &ROOHJH RI 3URIHVVLRQDO 6WXGLHV LV FRPPLWWHG WR EHORQJLQJ WKH &XOWXUDO 2XWUHDFK 2IILFH DQG WKH 2IILFH RI WKH 'DQG 'LYHUVLW\ 7KH &XOWXUDO 2XWUHDFK &HQWHU FXOWXUDO RXWUHDFK 7KLV LV D VSDFH IRU VKDUHG 6DQGKLOOV &RPPXQLW\ &HQWHU DQG WKH &XOWXUDO 2XWUHDFK &HQWHU FRPPRQ JURXQG 7KHVH RIILFHV DQG SURJUDPV DUH GHGLFDWHG WR &XOWXUDO 2XWUHDFK &HQWHU ZLOO KHOS WKH SURPRWH LQFOXVLRQ WKURXJKRXW 6DQGKLOOV &

3URPRWLQJ HTXLW\ DQG LQFOXVLRQ RQ RXU FD VXFFHVV DV DQ LQVWLWXWLRQ 7KHVH ZRUGV DUH WKDW FUHDWH RXWFRPHV 7KURXJK OLVWHQLQJ KDYH JRDOV QHZ LQYHVWPHQWV DQG RSSRUWXQLWLHV EHWWHU 7KHVH HIIRUWV DUH GHVLJQHG WR $IIDLUV DQG 'LYHUVLW\ 7KH 'HDQ DORQJ ZLWK &RPPLWWHH DVSLUH WR DFKLHYH WKH KLJKHVW OLDLVRQ FRPPLWWHH PHPEHUV %\ YDOXLQJ JURXS¶V PLVVLRQ FRQWLQXHV WR SURPRWH DQ LQ SURDFWLYH LQ DGGUHVVLQJ GLYHUVLW\ HTXLW\

6WXGHQW ,QYROYHPHQW LQ WKH

6WXGHQW *RYHUQPHQW $VVRFLDWLR

6WXGHQW 6HOHFW LQ ,QVWLWXWLRQDO 'H

%\ VWDWXWRU\ UHTXLUHPHQWRI WKH 3 6WXGH
$VVRFLDWLRQ VHUYHV H[RIHLWKR RQYHQWLRQDL QDEL
WKH &OHJH 6WXGHQWV DUH DSSRLQWHG WR W
6DIHW\ DQG (QYLRQPHQWDO 6WXGHQW BdR3

6$1'+,//6 &20081,7< &76 @

DQG D UDQJH RI VWLPX&&RDWLHQH DF WLOWLPLVQ
UHVSRQVLELOLW\ WR RYHUVHH VWXGHQW OLIH
7KH VXSHUYLVLRQ RI VWXGHQWLYDFWLRQLWLHV
6HUYLF7KHV 9LFH 3UHVLGHQWFRDJHVGHQW'LUHY
6WXGHQWWR /GLHWXGHQW DFWLYLWLHV DQG VHUYH
RYHUQPHQW $VVRFLDWLRQ6DWWHQGV DOO 6
VSRQVRUHG DFWLYLWLHV DQG VHUYHWKHDFH D OL
3UHVLGHQW RI 6WXGHQW*RYHUQPHQW6VWUHEHQLRWKHURXVHS
6*$GYLVRU RYHU WKH 6*$ DQG VWXGHQWQWHQW
*RYHUQPHQW $VVRFLDWLRQ &RQVWLWXWLRQ DQ

7KH 6*$ LV WKH RIILFLDO VDQFWLRQLQJ ERG
RUJDQL]DW6L*RQ&RQVWLWXWLRQ%\ODZV %\OD
UHVSRQVLELOLW\ LQ LQLDWLQJGHQWSOXEUPLF
ZKLFKVW EH UHFRJQL]HG DV VXFK LQ RUGHU \
IDFLOLWLHV (DFK FOXEXEWLHPHUJDQL]DWLRQ DK D
ZKR VHUYHV DV DGYLVRU DQG PHHWV UHJXO

+RUWLFXOWXUH &OXE

&RQW+DLFWDULH %OHYLQV 6WHHOHHGYLQVK#VDQGKLOOV

2Qð° Yù 10°b@ + Yÿþ Y

7KH SXUSRVH RI WKLV RUJDQL]DWLRQDO FKDUW LV WR PHHW WKH
6&& WR LGHQWLI\ KHDOWKFDUH SXV SURIHVVLRQDOV DQG PHPE
LWV PHPEHUV DQG WR SURPRWH FRPPXQLW\ DZDU

5DGLRJUDSKHU

&RQWULEXWRU *DUQHU .HQQHG\JDUQHUU#VDQGKLOOV HG

7KH 5DGLRJUDSKHU FKURQRORJLFDO VXPPDU\ DUH HQUROO
6&&V 5DGLRJUDSK\ 3URJUDP [illegible]

6WXGHQW *RYHUQPHQW $VVRFLD

&RQW%EWQGL 3KHPSVLS\V SKLODVLSQVKLOOV HGX

7KH VWXGHQW DFWLYLWLHV SURJUDP DW 6&&
*RYHUQPHQW $VVRFLDWLRQ 0HPEHUV RI WKH
FtP†m °O –@UCPYHLGH€ WWXGHQWV ZLWK FXDQGXVBHQLYHQFLD

678'(17 &21'8&7

6WXGHQW &RQGXFW LQ WKH ,QVWUXFW

)DFXOW\ WHDFKLQJ FRXUVHV IRU 6DQGKLOOV &R
WDNLQJ FRXUVHV DW 6DQGKLOOV &RPPXQLW\ &

JXLGDQFH LQ SURPRWLQJ JRRG VWXGHQW FRQ
IDLOV RXU RQO\ RSWLRQ LV GLVFLSOLQDU\ DF
FRQFHUQLQJ DSSURSULDWH FRQGXFW RU HOVH
'HDQ RI ,QVWUXFWLRQ 9LFH 3UHVLGHQW
FXUULFXOXP VWXGHQWV 9LFH 3UHVLGHQW
:RUNIRUFH 'HYHORSPHQW FRQWLQXLQJ HGXF
9LFH 3UHVLGHQW &HQWHU RQ WKH &RQWLQH

6DQGKLOOV &RPPXQLW\ &ROOHJH UHVHUYHV
UHDGPLVVLRQ WR VWXGHQWV ZKRVH SUHVHQF
DGPLQLVWUDWLRQ DV KDUPIXO RU SRWHQWLDO
&ROOHJH HQWHUV IDFXOW\ DQG RU VWDII 0RUHR
&ROOHJH PD\ UHIXVH WR DGPLW DQ\ SHUVRQ

)LVFDO LUUHVSRQVLELOLW\ OHXFKHGVIILQHV
IDLOXUH WR UHSD\ FROOHJH

678'(17 &21'8&7

GLVFRQWLQXH D KHDULQJ LI WKH VWXGHQW

&$0386 32/,&($1' 38%/,& 6$)(7<

7UDIILF 5XOHV DQG 5HJXODWLR

$OO VWXGHQWV IDFXOW\ DQG VWDII DUH UH
UHJXODWLRQV UHODWHG 7KH YHKLFOHV DQG
UXOHV DQG UHJXODWLRQV &RQWDFW WKH SH
OLQNV WR 6HFXULW\

$XWRPRELOH 5HJLVWUDWLRQ

$OO VWXGHQWV ZKR SDUN YHKLFOHV RQ FDPSX
WLPH RI VHFRQG UHJLVWUDWLRQ 7KH FRVW RI SDUN
VWXGHQW IHHV SD\DEOH DW UHJLVWUDWLRQ

3DUNLQJ 5HJXODWLRQV

6WXGHQWV DUH UHTXLUHG WR REWDLQ D SDUNLQJ
YLVLWRUV RU IRU IDFXOW\ VWDII 5HVHUYHG S
S P 0RQGD\ WKURXJK)ULGD\ DIWHU ZKLFK VSDFHV
GRHV QRW DSSO\ WR KDQGLFDSSHG SDUNLQJ
VSDFHV :KHQ SDYHG SDUNLQJ VSDFHV DUH IL
GHVLJQDWHG XQSDYHG DUHDV IRU WHPSRUDU
LQFOXGLQJ KDQGLFDSSHG SDUNLQJ LV PDUNHG

3DUNLQJ 3HUPLW

$OO VWXGHQWV DUH UHTXLUHG WR REWDLQ D
&RQGXFW IRU VWXGHQW IRU WKH SHULRG RI WKH
WR SLFN XS LQ WKH 7KHPSVRQ &HQWHU DIL[HG WK
UHDU EXPSHU RU GLVUDGEW S GEr™ °€0APW 0W

"È

3DUNLQJ 9LRODWLRQV

9LRODWLRQV RI SDUNLQJ UHJXODWLRQV ZLOO UHV
WRZHG 9LRODWLRQV WKDW [illegible] DUH VXEMHFW WR GLVFLSOL
OHYLHG 9LRODWLRQV IRU ZKLFK FLWDWLRQV PD
OLPLWHG WR WKH IROORZLQJ

)LQHV

7KH %XVLQHVV 2IILFH LV KHUHE\ [illegible] WKH IROORZLQJ YLRODWLRQV

- 3DUNHG LQ YLVLWRU VSDFH
- 3DUNHG LQ IDFXOW\ VSDFH
- 3DUNHG LQ VWXGHQW VSDFH
-)DLOXUH WR GLVSOD\ FXUUHQW SDUNLQJ GHF
-)DLOXUH WR UHJLVWHU YHKLFOH
- ,PSURSHU GLVSOD\ [illegible]

B$q Q€CP ,÷€

SURSHUW\ DQG DOO SXEOLF SURSHUW\ LV PHGLDWH
&DPSXV RIILFHUV VKDOO UHVSRQG WR HG PDWWHU
FDPSXV SURSHUW\ WR LQFOXGH WKH HQIRUFHPHQ
FULPLQDO DQG WUDIILF ODZV

&DPSXV SROLFH SHUVRQQHO ZRUN FORVHO\ ZLWK
DJHQFLHV DQG KDYH GLUHFW UDGLR FRPPXQLFDW

(PHUJHQF\ 6HUYLFHV

&DPSXV SROLFH RFFLFHUV DQG PDLQWHQDQFH HPSOR\HHV
5HVSRQGHUV 7KH\ UHVSRQG WR PHGLFDO HPHUJHQ
DQG WRUQDGRHV

LQYRO&YDLQSJXV 3ROLFH DQG3KXEOLF 6HWWOHPH
HQIRUFHPHQW DXWKRULWLHV&DPSXVHV3RO LQYR
6DIHW\HUFWDRQG[HWFKHYLFH 3UHVLGHQW ZLOO GHWH
DQG RU FRPPXQLW\ DOHUW VKRXOG EH LVVXHG

6WXGHQWV ZKR SDUWLFLSDWH LQ FDPSXV YLRO
DFWLRQV XS WR DQG DQVXVSHQVLRQ &RQGXFW
&RQGXFW KHUH LV DQ LQKHUHQW ULJKW WR DSSH

'RFXPHQWDWLRQ 5HSRUWV

&DPS3XROLFH DQG 3ZLOOLWDLQWDLQ GDLO\ ORJ GRF
FULPHV UH&DPSXV3ROLFH DQG 3VORLFH DQG 3KHZLFQ3RLFH
DJHQFLHV 7KH LQIRUPDWLRQ IRXQG LQ WKLV
NQRZOHGJH ZLWKLQ WZR EXVLQHVV GD\V H[
LQIRUPDWLRQ SURKLELWHG E\ ODZ RU ZRXOG MHI
YLFWLP¶V FRQILGHQWLDOLW\

&ULPH 6WDWLVWLFV

,Q DFFRUGDQFH ZLWK6WXGHQW6KHDOWK&RPPXQLW\
$FW RI DQG WKH &OHU\ $FW WKH &ROOHJH

5HSRUWLQJ 6H[XDO $VVDXOW

7KH &ROOHJH HQFRXUDJHV DOO YLFWLPV RI VH[XDO

7KH FROOHJH LQIRUPHG WKH DFFXVHU DQG WKH ILQDO UHVXOWV ZLWKLQ RQH EXVLQHVV G

7KH YLFWLP KDV WKH RSWLRQ WR UHSRUW DQ HQIRUFHPHQW DXWKRULW\ 5HSRUWLQJ DVV SURFHHG ZLWK OHJDO SURVHFXWLRQ ,W LV WK WR FRQWLQXH ZLWK RU WR KDOW OHJDO SURFH

&ROOHJH SHUVRQQHO ZLOO ZRUN WKH YLFWLP ZLWK ZKD DYDLODEOH DV DSSURSULDWH

0HGLFDO DQG 3V\FKRORJLFDO 6XSS

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)LUVW+HDOWK 0RRUH 5HJLRQDO +RVSLWDO
(PHUJHQF\ 5RRP
)ULHQGV RI HQG
0RRUH &RXQW\ (PHUJHQF\
0RRUH &RXQW\ 'HSDUWPHQW RI 6RFLDO 6HUYL
0RRUH &RXQW\ +HDOWK 'HSDUWPHQW
'D\PDUN 5HFRYHU\ 6HUYLFHV
6DQGKLOOV &RPPXQLW\ &ROOHJH &RXQVHOLQ

+2.(&2817<

&DSH9DOOH\ 0HGLFDO &HQWHU
'D\PDUN 5HFRYHU\ 6HUYLFH
)LUVW +HDOWK)DPLO\ &DUH &HQWHU
+RNH &RXQW\ 'HSDUWPHQW RI 6RFLDO 6HUYLFHV
+RNH &RXQW\ +HDOWK 'HSDUWPHQW
+RNH &RXQW\ 6KHULII¶V 'HSDUWPHQW
6DQGKLOOV &RPPXQLW\ &ROOHJH &RXQVHOLQ

7HOHSKRQH &

7KH &ROOHJH FDQQRW DFFHSW LQFRPLQJ FDO HPHUJHQFLHV 6WXGHQWV VKRXOG OHW WKHLU DULVHV 6WXGHQWV VKRXOG DOVR EH DZDUH WKDW &DPSXV GRHV QRW KDYH D SDJLQJ V\VWHP RU ZDONLHH VWXGHQW KDV D FKLOG LQ GD\FDUH R DQ DGGLWLRQDO FRQWDFW SHUVRQ OLVWHG ZL WK&6VWXGHQW FDQQRW EH UHDFKHG

:KHQ VHYHUH ZHDWKHU IRUFHV DQG [illegible]
DQQRXQFHPHQWV ZHUH PDGH RQ WKH 6&& KRPHSDJH DQ
6WXGHQWV HQUROOHG LQ FRXUVHV DUH DO
,QWHUQHW FRXUVH2SHQL/YHKU &RVOHJH DOVR
VWXGHQWV RI q@Đ°2SHQH WV]XW WK¼™o,•38Đ0

REMHFWLRQDEOH PDWHULDO RI DQ\ NLQG LQ
PDWHULDO ZKLFK HQFRXUDJHV FRQGXFW WKD
RIIHQVH JLYH ULVH WR FLYLO OLDELOLW\ RU
ODZ RU FROOHJHPSRVLWLRQHVI FKDQ OHWWHUV
VFKHPHV RI DQ\ NLQG DUH SURKLELWHG 8VH
VHQG XQVROLFLWHG DGYHUWLVLQJ SURPRWL
VROLFLWDWLRQ WR RWKHU RDQ R Q@0P p ™€

LQWHUDFWLRQV RXWVLGH WKH &ROOHJH DUH V
WKH RXWVLGH DJHQFLHV VXFK DV WHQDQW RZQHUV RU RXWVLGH
FRPSDQLHV RU VRIWZDUH GHYHORSHUV

7KH XVHU DJUHHV WR LQGHPQLI\ DQG KROG
&ROOHJH LWV %RDUG RI 7UXVWHHV DJDLQVW DQ
FODLP ODZVXLW DFWLRQ GDPDJHV SHQDOWLHV
UHVXOWLQJ IURP WKH XVH RI WKH &ROOHJH¶
RU UHODWHG WR WKH XVH RI WKH &ROOHJH¶
IDFLOLWLHV 7KLV LQGHPQLW\ VKDOO LQFOXGH
RQWUDGHPDUN RU VHUYLFH PDUN LQIULQJHPH
FRS\ULJKW LQIULQJHPHQW GHIDPDWLRQ XQOD
ULJKWV RI SXEOLFLW\ DQG LQYDVLRQ RI SULYD

(VWDEOLVKLQJ 3URFHGXUHV

,QGLYLGXDO RUJDQL]DWLRQV HVWDEOLVK
SURFHGXUHV RU FRQGLWLRQV IRU XVH RI LQIR

6DQGKLOOV &RPPXQLW\ &ROOHJH SURYLGHV DQ H
DFDGHPLF DFWLYLWLHV RI WKH IDFXOW\ VWDII D
WKHHGRYSPHQW ZULWLQJ LQYHQWLRQ DQG SURG
GHVLJQHG WR LPSURYH WKH SURGXFWLYLW\ RI W
WHDFKLQJ OHDUQLQJ HQYLURQPHQW ,W LV WKH I
SRVLWLYH DWPRVSKHUH RI SRPHQW KRODUO\ G

'HILQLWLRQV

$V XVHG LQ WKLV 3RLF\ WKH IROORZLQJ ZRUGV \

,QWHOOHFWXDO SURSHUW\ LV GH
DQG FUHDWLYH ZRUNV WKDW FDQ EH FRS\U
OLWHUDU\ GUDPDWLF PXVLFDO DQG DUWLVWLF ZRUNV
PXOWLPHGLD SUHVHQWDWLRQV LQYHQWLRQ
LQFOXGHV DQ\ PDWHULDOV VSHFLILFDOO\ FU
HGXFDWLRQ FRXUVH 7KHVH PDWHULDOV FRX
WRWXG\ JXLGHV VRIWZDUH YLGHRWDSHG OH
WUDQVSDUHQFLHV E YLGXDOOV LVXDOL ELE
JORVVDULHV WHVWV DVVLJQPHQWV WKHUX
LQVWUXFWLRQDO PDWHULDOV
&RS\ULJKWDERSHULJKWDEOHXGHV DOO FUHDWL
WKDW LV SURWHFWDEOH XQGHU WKH FRS\ULJ
RWKHU FRXQWULHV &RS\ULJKW SURWHFWLRQ
PXVLFDO GUDPDWLF DQG RWKHU W\SHV RI F
QRW OLPLWHG WR WKH ZRUNV WHDFKLQJ PDWHU
ZRUNV SURSRVDOV DQG UHVHDUFK UHSRUW\
6LQLILFDQW FRQWULEXWLRQV VXSSRUW OHJH VXSSR
XVH RI VSHFLDOL]HG H[SHULPHQWDO HTXLSP
WKH XVH RI DQ\ &RPSXWHUV WUHDWRXUFHGLV WR DQ
H[SHQGLWXUH RI &ROOHGH "UÐ€°

VKDOO UHWDLQ LWV FRQWURO RYHU WR XVH VDLG ,Q
3URSHUW\ IRU UHVHDUFK DQG HGXFDWLR
K 1RWZLWKVWDQGLQJ WKH SURYLVLRQV RI
D ZRUN FUHDWHG XQGHU D JUDQW DFFH
RZQHUVKLS SURYLVLRQV RI WKH JUDQW

/LDELOLW\ ,VVXH

$OO &ROOHJH IDFXOW\ DQG VWDII ZLOO HQVXUH W
E\ WKHP DUH RULJLQDO H[FHSW IRU VXFK PDWHUL
DUH UHSURGXFHG ZLWK WKH ZULWWHQ SHUPLVVL
LQWHOOHFWXDO SURSHUW\ FRQVWLWXWH D YLRODWL
XSRQ DQ\ FRS\ULJKW EHORQJLQJ WR DQ\ RWKHU S
ZLOO FRQWDLQ QR LQIRUPDWLRQ SUHYLRXVO\ SXE
PHPEHU XQOHVV VXFK LQIRUPDWLRQ LV DOUHDG\ LQ
FRQWDLQV QR PDWWHU ZKLFK LV OLEHORXV RU LQ

'LVFLSOLQDU\ $FWLRQ

,QGLYLGXDOV DUH UHVSRQVLEOH DQG OLDEOH IRU
DQG GLVWULEXWLRQ RI LQ
UHVXOW LQ GLVFLSOLQDU\ DFWLRQ E\ WKH &RO
&ROOHJH DQG RU WHUPLQDWLRQ RI HPSOR\PHQW

$&$'(0,& 32/,&,(6 $1

WKLQNLQJ KRHUVHDWKRUHWFRPSHWHQFLHV KDYH EHH
DVVHVV VWXGHQWHDPEHGGHGHGHDQGDUHVRXUFHV

$OWHUQDWLYH 0HWKRGV IHRGLVFK

&UHGLW E\ ([DPLQDWLRQ

6WXGHQWV HQUROOHG LQ 6DQGKLOOV &RPPXQ
NQRZOHGJH WDKDQGWVFKLOWCKVH NQRZOHGJHYDHGGLQNL
FHUWDLQ FRXOHVJHLQ7KHVH&DFKLHYHPHQWV PD
H[SHULHQFH PLOLWDU\ H[SHULHQFH RU LQIRU

7R UHFHLYH FUHGLW E\ H[DPLQDWLRQ VWXGHQ
WDNLQJ FKDOOHQJH H[DPLQDWLRQV GHYHOOR\S
VWDQGDUGL]HG H[DPLQDWLRQ VXFK DV WKH &
&/(3 RU WKH 8QLWHG 6WDWHV $UPHG)RUFHV ,

$OWKRXJK DQ\ IDFXOW\ DGYLVRU RU FRXQVHOR
UHTXHVW WKHHWVWHFLZKEFRXUGLW E\ H[DPLQ
GHWHUPLQHG LERQDKHGLQSDWUXFWHQHVN FRXQGLQQ
IRUUHGLW E\ H[DPLQDWLRQ PXVW REWDLQ SHUP
GHSDUWPHQW LQ ZKLFKWKHHEEXEHOFKDLRISHUN
ZLOO DUUDQJH IRU WKH H[DPLQDDQ,RQWUXFWLR
PXVW DSSURYH DOO FUHGLW DZDUGHG E\ FKDO

6WXGHQWV ZKR ZLVK WR UHFHLYH FUHGLW E\ H
VKRXOG VXEWLWLVXWKRQHUWDWKRQGV DQG 5HJLV
7KH2IILFHRH5HFRUGV DQG ZLHQQVWUDQVDWLRQ WKH FH
FRQVXOWDWLRQ ZLWK WKH DSSURSULDWH GHSD

8SRQ WKH¶ VWXGHQW

&RXUVH DQG VXEVHTXHQW DFWLRQV WKHUHRQ WR WKH 9LFH 3
:RUNIRUFH 'HYHORSPHQW DQG &RQWLQXLQJ (GXFD

7KH 9LFH 3UHVLGHQW IRU :RUNIRUFH 'HYHORSPHQW DQG
UHYLHZV WKH FURVVZDON WR HQVXUH WKDW WK
FRQWHQW DQG KRXUV WR 1&&&6 &RPPRQ &RXUVH /
FHUWLILFDWH GLSORPD DQG RU GHJUHH SURJUDI

$IWHU UHYLHZ WKH :RUNIRUFH 3UHSDUHGQHVV 'HYHORSPHQW DQG
(GXFDWLRQ VXEPLWV WKLV FURVVZDON WR WKH 9
DQG WKH 'HDQ RI ,QVWUXFWLRQ 7KH 'HDQ FRQVXO
GHSDUWPHQW FKDLUV WR UHYLHZ
OHDUQLQJ RXWFRPHV DQG FRXUVH UHTXLUHPHQWV
$IIDLUV WKHQ DSSURYHV WKH &(WR EH XVHG DV G
IRU WKLV DQG IXWXUH UHTXHVWV
IRU PDWULFXODWHG VWXGHQWV
'HDQ RI ,QVWUXFWLRQ

7KH 'HDQ RI ,QVWUXFWLRQ SURYLGHV
DSSURYDO IRU DZDUGLQJ FUHGLW
UHFRUG DV DW7KHJUDGXDWH
$V LV WKH FDVH ZLOO DOO LQVWDQFHV RI DOWHUQ
IRU LQLWLDWLQJ WKH UHTXHVW EDVHG RQ LQIR
HQUROOPHQW WR WKH FROOHJH

$&$ &UHGLW E\ ([DP

5HFRUGV DQG ,QIRUPDWLRQ WKDW DUH FRQVLGHUHG SURQVLELOLW\ RI W
&ROOHJH %RDUG WR UHTXHVW WKDW 'HSDUWPHQW RI
5HFRUGV DQG ZLOO DVVLVW WKURXJK H[DPLQDWLRQ V
DSSURSULDWH FU¶GHQWLDOV WKDW DUH FRQVLVWHQW ZLWK
WKH $SSOLFDWLRQ RI $FFUHGLWDWLRQ RI $FDGHPLF
ZLOO EH PDGH E\ WKH DSSURSULDWH GHSDUWP
RI ,QVWLWXWLRQDO $FFUHGLWDWLRQ RI WKH
FRXUVH FUHGLW DW 6DQGKLOOV &RPPXQLW\
DVVRFLDWH LQ DUWV RU ´ DQG WUDQVIHU
XQLYHUVLW\ WKHLU $3 VFRUHV ZLOO
LQVWLWXWLRQDO SROLFLHV RQ DFFRUGLQJ WR
(QJLQHHULQJ 3 GRXUVHV FUHGLWV ³DZDUGHG IRU
DUH DFFHSWDEOH DV SDUW RI D VWXGHQW¶V
WKH $(WR %6($$ ´

$3 &RXUVH	&ROOHJH &RXUVH DQG 5HT
$UW DQG 'H	$57 $57 RU $57EDVHG SRUWIROLR
$UW +LVWR	$57 DQG ZLWK D VFR RQO\ ZLWK D VFRUH RI RU
%LRORJ\	%,2 DQG ZLWK D VFRRQG ZLWK D VFRUH RI RU
&DOFXOXV	0$7 ZLWK D VFRUH RI
&DOFXOXV '	0$7 DQG 0$7 ZLWK D VFRU

$3 &RXUVH	&ROOHJH &RXUVH DQG 5HT
3K\VLFV & 0HFKDQLFV	3+< ZLWK D VFRUH RI
3K\VLFV & (OHFWULFL 0DJQHWLVP	3+< ZLWK D VFRUH RI
3V\FKRORJ\	36< ZLWK D VFRUH RI
6SDQLVK /D	63$ ZLWK D VFRUH RI
6SDQLVK /L	63$ ZLWK D VFRUH RI
6WDWLVWLF	0$7 ZLWK D VFRUH RI
6WXGLR $U	$57 $57 RU $57 EDVHC SRUWIROLR
8 6 +LVWRI	+,6 DQG +,6 ZLWK D VFRUH

DSSURYDO E\ W'KHHSDUWPHQWDOHDOWKDQGKXPDQVHUYLFHV
7KH V\PSRVLXP DFDGHPLF WUDQVFULSWV ZLOO E
H[SHULHQWLDO OHDUQLQJ &UHGLW KRXUV ZLO
QR TXDOLW\ SRLQWV,QZGHWHUPLQLQJ GHSDUWPHQWDO
FRXUVHZRUN FRPSOHWHG LQFUHDVLQJ HZRX
FROOHJH UHIHUHQFHWLQKHQ1&&XFDWLRQ 0DVW
DQG %XVLQHVVWXGHQWV

7KHROOHJH SHULRGLFDOO\ YDOLGDWHVFWKHLWY
IRU H[SHULHQWLDO OHDUQLQJ E\ UHYLHZLQJ W
VXFK FUHGLWLQRXUVHZRU WKHLU SURJUDP RI

&UHGLW IRU 0LOLWDU\ 7UDLQL

$›¼ ™o t“@lÐ 6DQGKLOOV &RPPXQLW\ &ROOHJHDSDUWPHQW V
LQVWLWXWLRQ 7KH FROOHJH UHFRJQL]HV SULP
DZDUG FROOHJH FUHGLW EDVHG RQ UHFRPPHQ
RQ (GXFDWLRQ 6WXGHQWV VHHNLQJ FUHGLW I
D -RLQW 6HUYLFHV 7UDQVFULSW -67 7R ILQG
UHTXHVW D -67 SOHDVH YLVLW KWWSV MVW
$IIDLUV 2IILFH DW

6SHFLDO &RXUVH (QUROOPHQW

(QUROOPHQW &RQVLGHUDWLRQV

6HQLRU &LWL]HQ :DLYHU

6WXGHQWV DW OHDVW [illegible]

6$1'+,//`//`//b/ • ð ð€ /

D ZULWWHQ QRWLFH WR WKH LQVWUXFWRU DW
6WXGHQWV ZLOO QRW EH FKDUJHG ZKHQ DQ DE
DFWLYLWLHV LQ WKH FODVVURRP DQG RXWGRRU
3UHVHQWDWLRQV

6FKHGXOLQJ &ODVV 6HVVLRQV

7KH ODVW IRXU GD\V RI HDFK VHPHVWHU DUH
FRQFOXGLQJ VHVVLRQV RU H[DPLQDWLRQV RU IRU
GHVLJQHG WR EULQJ WKHVH FRXUVHV WR D FOR
FODVVHV GXULQJ WKH ODVW SHULRGV RI WKH GD
VFKHGXOH ZKLFK 6DQ 6HEDVWLDQ WR DWWHQG
ODVW FODVV RI WKH GD\ WR WKLV TXLVLWH FROOD
VHVVLRQV PXVW PHHW ZKHWKHU RU QRW D ILQD

*UDGLQJ 3ROLFLHV DQG 3UR

*UDGLQJ

*UDGLQJ SHUIRUPDQFH RI VWXGHQWV LQ FRXU
LQGLYLGXDO IDFXOW\ PHPEHUV

*UDGH &DWHJRULHV &RPSOHWLQJ D &RXU

&DWHJRULHV RI LQVWLWXWLRQDO JUDGHV DQG
PLQLPXP FRXUVH UHTXLUHPHQWV DUH

&RXUVH &RPSOHWLRQ *UDG

6XSHUL	$	6XSHULRU DFDGHPLF SHUIR
*RRG	%	*RRG DFDGHPLF SHUIRUPD
$YHUDJ	&	$YHUDJH DFDGHPLF SHUIRU

&RXUVH &RPSOHWLRQ *UDG

3DVV	3	/HYHO 3DVV RILFLHQF\ 0$7
	3	FRXUVHV RQO\
&UHGLW	&(	&UHGLW HDUQHG E\ H[DPL
([DPLQD		&ROOHJH
([SHULH	(/	&UHGLW HDUQHG IRU OLIH
/HDUQL		
7UDQVI	75	&UHGLW HDUQHG IURP FF
&UHGLW		DFFHGLWHG HGXFDWLRQDO
		HGXFDWLRQ H[SHULHQFHV
$XGLW	$8	3DUWLFLSDWLRQ DV DQ DX
6HQLRU	65	3DUWLFLSDWLRQ DV D VH
		WXLWLRQ ZDLYHG

*UDGH &DWHJRULHV IRU&RXQW&RPSOHW

&DWHJRULHV RI LQVWLWXWLRQDO JUDGHV DQG V\P
PLQLPXP FRXUVH UHTXLUHPHQWV DUH DV IROORZV

&RXUVH&RPSOHWLRQ *UDGH

)DLOXUH	)	6WXGHQW SHUIRUPDQFH
0HHW &H		UHSHWLWLRQ RU WKH WKH
5HTXLUH		³)´ JUDGH LQ
		SURJUHVV WR WKH QH[W F
5HHQUR(	5	1RQ[XQLWLYH JUDGH XVHG
		x WKH VWXGHQW IDLOV W
		WKH 7LHUV 70$7 FRX
		x WKH VWXGHQW IDLOV W
		WKH 7LHU 7HVW DQG
		FRXUVHV RQO\
'URS	'5	&RXUVHV GURSSHG GXU
		FODVV ZLOO
		WKH DQG GDW
		WKH WUDQVFULSW DV ³'5 ´
:LWKGUI		

&RXUVH&RQOHWLRQ *UDGH

)DLOLQJ): 8VHG WR LQGLFDWH WKDW
:LWKGUL D FRXUVH KDV ZLWKGUDZ
D FRXUVH DIWHU WKH): (
JUDGHV PD\ DOVR EH JLYH
LQ FDVHV RI YLRODWLRQ
FRQGXFW

,QFRPSC , 3XQLWLYH JUDGH XVHG
GHWHUPLQHV WKDW DW (
UHTXLUHPHQWV PD\ EH PH
QH[WRQF VHFXWLYH VHPHVWH
FRXUVH

,QFRPSC ,(8VHG WR LQGLFDWH WKD
(PHUJHQ LQFRPSOHWH GXH WR DQ
SDQGHPLF RU QDWXUDO G

5HPRYLQJ ,QF*RPSOHWHV

:KHQ JUDGHV DUH UHSRUWHG LW LV WKH U
WKH VWXGHQW WR GHWHUPLQH WKH ZRUN
RI FRPSOHWLRQ ZLWKLQ WKH QH[W FRQVH
WKH UHPRYDO RI WKH ³,´ JUDGH
:KHQ UHPRQJ DQ ³,´ JUDGH GXULQJ WKH QH[W
RUVH VWXGHQW VKRXOG FRQWLQXH ZRUNLQJ

`.P `VWXGLc €"€Y˜H 0UH˜•€PWKH ³.

*UDGH 3RLQW $YHUDJH

*UDGH SRLQW DYHUDJHV DUH EDVHG RQ SRLQWV D

*UDGH	*UDGH 3R
$	
%	
&	
'	
)	
):	
,	
:3	1RW FRP
'5	1RW FRP
3	1RW PLQH[W
3 ±3	1RW FRP
5	1RW PLQH[W

$ PLQLPXP PDMRU JUDGH SRLQW DYHUDJH RI L
DGGLWLRQ VWXGHQWV HQUROOHG LQ KHDOWK V

'URSSRQJ:LWKGUDZLQJ IURP &RXUVH

,QVWUXFWRU SHUPLVVLRQ DQG WKH VWXGHQW¶V UHTXLUHG EHIRUH D GURS FDQ EH SURFHVVHG W HOHFWURQLFDOOB\ &RXUVH &RQWUDFW WR UHTXHVW WR EH GURSSHG VWXGHQW WHTXHVW WR GURS '5 D FRXUVH DW DQ\

,Q DGGLWLRQ WR WKH UHTXLUHPHQWV RI VHFWLRQ 6SULQJ VHPHVWHU RWKHU DEVHQFHV VKDOO EH H[FXVHG DQG 6SULQJ DQG 6XPPHU $ % DQG & 6HVVLRQV 7KH GURS

,I D VWXGHQW ZLVKHV WR FKDQJH IURP RQH LQVW
VWXGHQW PXVW ILOO RXW DQG VLJQ D IRUP DQG VXE
RQ WKH 0\6&+('8/(&2856(:+,&+ 6+2:6 WKH
DW DQ\ WLPH GXULQJ WKH DFDGHPLF \HDU EXW WK

IHGHUDO UHJXODWLRQV IRU LQVWLWXWLRQV WK
RU UHFHLYLQJ 7LWOH ,9 +($ DLG RI WKHLU HOL

6WDQGDUGV RI 3URJUHVV

7R UHFHLYH ILQDQFLDO DLG WKH VWXGHQW P
3URJUHVV WRZDUG DQ HOLJLEOH SURJUDP RI V
)LQDQFLDO $LG 2IILFH¶V VWDQGDUGV RI SURJU
DLG PXVW HVWDEOLVK RUGHU WR PDLQWDLQ 6DWLVIDFW

4XDOLWDWLYH 7KH\ PXVW LQFOXGH DJWDYHH SRLQ
DYHUDJH *3$ UHTXLUHPHQW WKH VWXGH
DQG RU FRQWLQXH UHFHLYLQJ ILQDQFLDO
LQFOXGHV UHDOOLSORPD DQG FHUWLILFDWH
4XDQWLWDWLYH 6WDQGDUG 5DWH D
0D[LPXP 7LPH)UDPH

7KH VWXGHQW PXVW PDLQWDLQ WKH PLQLPXP

x &RPSOHWLRQ 5DWH 7KH TXDOLWDWLYH VWXGHQW VXF
FRPSOHWH DW WKH FXPXODWLYH GLW KRXUV DWW
PLQLPXP UHTXLUHPHQW ([DPSOH LI WKH V
KRXUV GXULQJ HQUROOPHQW WKH VWXGHQ
FUHGLW KRXUV KRXUV FRPSOHWHG ·
< Q0UÌ U P W¼"•@ PUHTXLUVSOHPÀ J LV GLC

BGPSOH–WH H FUHGLW KRX`V 0P

HQ `

5HSHDW &RXUVHV

)RU ILQDQFLDO DLG SXUSRVHV ZLOO QRW FRQWULEXWH
HDFK FRPSRQHQW RI WKH VWXGHQW¶V DFDGHPL

&UHGLW E\ ([DP

:KLOH &UHGLW E\ ([DP &(LV QRW LQFOXGHG L
RI DZDUGLQJ ILQDQFLDO DLG WKH HDUQHG
HDFK FRPSRQHQW RI WKH
YDOXH DW 6&& DQG WKHUHIRUH GRHV QRW DII

([SHULHQWLDO /HDUQLQJ

:KHQ VWXGHQW HDUQV FUHGLW (/RU ZKLFK
FDUHHU HPSOR
D FRXUVH LW LV QRW LQFOXGHG LQ HQUROOP
ILQDQFLDO DLG KRZHYHU WKH DWWHPSWHG
HDFK FRPSRQHQW RI WKH TXDQWLWDWLYH VWD
YDOXH DW 6&& DQG WKHUHIRUH GRHV QRW DII

)RXQGDWLRQV

&RXUVHV WDNHQ DW 6&& DQG DUH QXPEHUHG
FDOFXODWHG IRU 6$3 DV ZHOO DV ZKHQ FDOFXOD
2QH DFDGHPLF \HDU RI FUHGLW
IRXQGDWLRQ ZKHQ FDOFXODWLQJ WKH
2QO\ FUHGLWV
HQUROOPHQW VWDWXV IRU IHGHUDO ILQDQFLDO

:KHQ FDOFXODWLQJ $WWHPSWHG &UHGLW
LV WKH HTXLYDOHQW RI D JUDGH RI $ $Q 5 JUD
DQG LV FDOFXODWHG DV FRXUVHV
D VWXGHQW UHFHLYHV D JUDGH RI 5 DUH LQFO
EXW GR QRW FRXQW WRZDUG VXFFHVVIXOO\ FR

6XPPHU 6HVVLRQ

&UHGLW KRXUV DWWHPSWHG DQG
WKH FDOFXODWLRQ RI 6DWLVIDFWRU\ $FDGHPLF
SHULRG)RU SXUSRVHV RI ILQDQFLDO DLG IX
FUHGLW KRXUV

&ORFN +RXU 3URJUDPV

6WXGHQWV HQUROOHG LQ FORFN KRXU SURJUDP
RI HDFK SD\PHQW SHULRG $W WKH WLPH R
VXFFHVVIXOO\ FRPSOHWHG ERWK WKH FORFN K

UHTXLUHG IRU WKH SURJUDP WKH VWXGHQW LV [PHDVX
FXPXODWLYH FORFN KRXUV UHTXLUHG WR FRPSOH
FDOHQGDU WLPH 1RWH WKDW D VWXGHQW LQ D S
IRU KRXUV EH\RQG WKRVH LQ WKH SURJUDP WKH
WKH DPRXQW RI FDOHQGDU WLPH WKH VWXGHQW V
H[DPSOH LI WKH SURJUDP LV FORFN KRXUV D
ZHHN WKDW PHDQV WKH SURJUDP LV ZHHNV LQ
ZHHNV $ VWXGHQW ZKR LV HQUROOHG LQ WKLV SU
ZHHNV WR FRPSOHWH WKH FORFN KRXUV UHTX
6WXGHQWV QRW FXUUHQWO\ RQ :DUQLQJ 6XSH

&RPSOHWH $FDGHPLF 5HFRUG

,Q RUGHU WR PHDVXUH D VWXGHQW¶V VDWLVIDFW
RU EHKDYLRU UHTXLUHPHQWV WKH VWXGHQW¶V WR
&RPPXQLW\ &ROOHJH PXVW EH HYDOXDWHG ZKHWH
ILQDQFLDO DLG IRU WKH 7HQQHVVHH 2FFXSDWLRQDO
WR FRXUVHV WDNHQ RXWVLGH WKH +XVNLQ SU
DQG &ROOHJH 3URPLVH SURJUDP DQG WKH 6DQG
:KHQ VWXGHQWV FRPSOHWH FRXUVH ZRUN IRU PR
ILQDQFLDO DLG DFDGHPLF SURJUHVV VWXGHQWV
ILQDQFLDO DLG

)LQDQFLDO $LG (OLJLELOLW\ 6

6DWLVIDFWRU\ VWDWXV LV DFKLHYHG ZKHQ DOO W

KDYH WKH UHTXLUHG FXPXODWLYH JUDGH SRLQW
VXFFHVVIXOO\ FRPSOHWHG GLW RRXUVHV ZLWKLQ
:DUQLQJ IRU WKH IROORZLQJ VHPHVWHU $ VWXGH
FRQWLQXH WR UHFHLYH 7LWOH ,9 DLG IRU RQH SD
ZLO EH PRQLWRUHG DW WKH HQG RI HDFK VHPHV
PHW WKH VWDQGDUGV RI SURJUHVV DQG LV HOLJL
DLG

)LQDQFLDO 00@Àp 6XSHQVLRQ

6WXGHQWV RQ ILQDQFLDO DLG :DUQLQJ ZKR KDYH
FRPSOHWLRQ UHDFKHG ZKHQ EHLQJ PRQLWRUHG FXP
SRLQW DYHUDJH RI ZLO‰–O KDYH WKHLU ILQDQ
RI WKH :DUQLQJ SHULRG

)LQDQFLDO $LG 3UREDWLRQ

,I D VWDWXV RI 6XVSHQVLRQ LDWWDFKHV WR D SHUVRQ V GULYHU V OLFHQVH WKH GHSDUWPHQW VKDOO QRWLI\ WKH SHUVRQ LQ ZULWLQJ DW OHDVW GD\V SULRU WR WKH HIIHFWLYH GDWH RI WKH VXVSHQVLRQ XQOHVV WKH SHUVRQ KDV SUHYLRXVO\ EHHQ QRWLILHG RI WKH VXVSHQVLRQ SXUVXDQW WR VXEVHFWLRQ RI WKLV VHFWLRQ

:DUQLQJ 1HDU 0D[LPXP 7LPH)UDPH

6WXGHQWV ZKR KDYH DWWHPSWHG WKH PD[LPXP WLPH IUDPH IRU WKHLU SURJUDP RI VWXG\ VWDWXWH RI :DUQLQJ 1HDU 0D[LPXP 7LPH)UDPH ZLOO FRQWLQXH WR UHFHLYH ILQDQFLDO DLG XQWLO WKH\ ZLOO KDYH WKHLU DVVLJQHG D VWDWXWH RI 0D[LPXP 7LPH)UDPH

0D[LPXP 7LPH)UDPH

6WXGHQWV ZKR KDYH DWWHPSWHG WKH PD[LPXP WLPH IUDPH IRU WKHLU SURJUDP RI VWXG\ VWDWXWH RI ILQDQFLDO DLG

1RWLILFDWLRQ RI)LQDQFLDO $LG :DUQLQJ 3UREDWLRQ 1HDU 0D[LPXP 7LPH)UDPH

7KH)LQDQFLDO $LG 2IILFH ZLOO VHQG FRUUHVSRQGHQFH RQ ILQDQFLDO DLG :DUQLQJ 6XVSHQVLRQ RU 0D[LPXP 7LPH)UDPH

5HJDLQLQJ (OLJLELOLW\

6WXGHQWV ZKR DWWHQG 6DQGKLOOV &RPPXQLW\ DLG PD\ UHJDLQ ILQDQFLDO DLG HOLJLELOLW\ DQG HDUQLQJ WKH UHTXLUHG *3$ VWDQGDUG RU UHTXHVW UHFRQVLGHUDWLRQ RI ILQDQFLDO DLG

5HFRJQLWLRQ RI 2XWVWDQGLQJ $FD

3UHVLGHQWLDO

7KH QDPHV RI VWXGHQWV ZKR KDYH EHHQ GHFODUHG QRPLQDWHG RU HOHFWHG WR
)RXQGDWLRQ LQGLFDWHG E\ 3UHVLGHQWLDO RU &KDQFHOORU GLVWLQFWLRQ
FROOHJH ZRUN GXULQJ WKH VHPHVWHU OLVWHG EHORZ
SRLQW DYHUDJH RU KLJKHU GXULQJ

5HVRXUFHV IRU /HDUQLQJ DQ

'LVDELOLW\ 6HUYLFHV

&RQVLVWHQW ZLWK WKH $PHULFDQV ZLWK 'LVD
RI WKH 5HKDELOLWDWLRQ $FW RI &RPPXQLW\ &RO
WR HTXDOLW\ RI HGXFDWLRQDO RSSRUWXQLW\

%R\G /LEUDU\ DVVRFLDWLRQ RI 5RFNZDOO SXWHU FODVVURRP
XVHG SUHGRPLQDQWO\ E\ DQG +XPDQLWLHV VWXGHQWV
SURYLGHV FRPIRUWDEOH SOHDVDQW VXUURXQGL
VTXDUH WEXLOGLQJ SURJUDPV FRPPXQLW
VWD WëÂñfRY €E E E `ðP P E C&H@ðR“€X E BWDA

ZKR QHHG WKRVH VHUYLFHV FDQ P6HWXGHQWV D
WKH +RNH &HQWHU LQ +RNH &RXQW\ LQFOXGLQ
(DUO\ &ROOHJH +LJK 6FKRRO FDQUHXFKVWKH
/HDUQLQJ 5HVRXUFHV 2ZQHU EQG 3FRKRXUGLQDWHV
UHIHUHQFHV RVLEUDULDQV RQ WKH PDLQ FDPSXV

6WXGHQW 6XFFHVV &HQWHU

7KH 6WXGHQW 6XFFHVV &HQWHU LVGDYLDLORDEOH
QRW EH DYDLODEOH RU ZKR KDYH D SURJUDP F
6WXGHQW 6XFFHVV &HQWHU DOVR DVVLVWV V
DGYLVRUV HQG HQUROOLQJ DQG WURXEOHVKRWL
RULHQWDWLRQ FRXUVH

7HVWLQJ

7KH &ROOHJH DG0HQLVWUDWLRQ 'HLYLHKOR
VFKRRO HTXLYDOHQF\ RI DFDGHPLF DFKL
H[DPLQDWLRQV UHTXHVWHG E\ (QHVWXGHQ
LQ 9DQ 'X6HQ +DO

7XWRULDO 6HUYLFHV

$Q RUJDQL]HG SURJUDP RI IUHH WXWRULDO DVV
LQVWUXFWLRQ JLYHQ LQ WKH FODVVURRP 7KH
DQG FRPPXQLW\ Y5RO6XQWHUHLQV &KRVWRL LQ
LQRGDQ 2QOLQH WXWRULQJ UHVRXUFHV DYDLODEO
7XWRULQJ 6HUYLFHV FDQ EH IRXQG RQ WKH 0\6

7KHUH DUHLQOVDEURRS FDPSXV WR DVVLVW VWX
6WXGHQWV VKRXOGUXHWRUVKLRU LQIRUPDWLRQ

&RPPXQLW\ &ROOHJH 6\VWHP $VVRFLDWH LQ)L
$) $ 9 $ WR %) $ $UWLFXODWH $JUHHPHQW
UHTXLUHPHQWV FDQ EH DW[RXQG LQZWKH VHFWLRQ

$ 8QLIRUP $UWLFXODWLRQ $JUHHPHQW IRU WK
3UHSDUDWLRQ $ $ 7 3 DQG WKH $VVRFLDWH
$ 6 7 3 LV FRPLQJ VRRQ3DQG KDVH WLHG XS WXQLY
IRU XSGDWHV

6WXGHQWV LQWHUHVWHG LQ WUDQVIHUULQJ WR D SDUWLFLSDWLQJ
XQGHU WKH 8QLIRUP $UWLFXODWLRQ $JUHHPHQ
&DURLQD %DFFDODXUHDW7UHDDUHDV DQG UHTXLUHPHQWV
&RPPXQLW\ &ROOHJH 6\VWHP $VVRFLDWH LQ)L
%$ $UWLFXODWLRQ $JUHHPHQW 7KH $) $ 7
IRXQG LQ WKH VHFWLRQV WKDW IROORZ

6WXGHQWV SODQQLQJ WR WUDQVIHU VKRXOG
FRQVLVWHQW SROLFLHV UHJDUGLQJ GHDG
SHUVRQQHO ZLOO UHYLHZ WKH WUDQVFULSWV
FRPSXWH JUDGH SRLQW DYHUDJHV DQG7KRXOG
DUWLFXODWLRQ $JUHHPHQW (WR$% $6)($ WR %) $ À

81,9(56,7< 678',(6 352*5$0

XSRQ WKH XQLYHUVLW\ GHJUHH LQ RQH RI

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+80

+($
+,6
+80
0$7
$OO 086 3UHIL[&RXUVHV
$OO 3(' 3UHIL[&RXUVHV
36<
62&
63$

727$/ 6(0(67(5 +2856 &5(',7 6+& ,1 352*5$0

6WXGHQWV PXVW PHHW WKH UHFHLYLQJ XQLYHUVI
KHDOWK DQG SK\VLFDO HGXFDWLRQ UHTXLUHPHQW
DIWHU WUDQVIHU WR WKH VHQLRU LQVWLWXWLRQ

$VVRFLDWH'HJUHH&XUULFXOXP6HTXHQFH ([DPSOH

	&UHGLW +RXUV
	3HU :HHN +RXU
	&ODVV /DE &UHG
),567 6(0(67(5)DOO	
$&$ &ROOHJH 7UDQVIHU	
(1* :ULWLQJ DQG ,QTXLU	
$67 %,2 &(/0 R*U 3+<	
8*(7& FRXUVH	
+XP)$ &RP 8*(7& FR	
6RF %HK 6FLHQFH 8*	
6RF %HK 6FLHQFH 8* _ _ _	
6(&21' 6(0(67(5 6SULQJ	
(1* :ULWLQJ 5HVHDUFK I	
0$7 0DWK &&(7RXUVH	
+XP)$ &R*R7& FRXUV	
+XP)$ &RP 8*(7& FR	
6RF %HK 6FLHQFH 8* _ _ _	
7+,5' 6(0(67(5)DOO	
$GGLWLRQDO *HQ (G ___ ___ _	
5HTXLUHG +RXUV FR	
)2857+ 6(0(67(5 6SULQJ	
$GGLWLRQDO *HQ (G ___ ___ _	
5HTXLUHG +RXUV FR	
7RWDO 5HTXLUHG 0LQLPXP 6HPHVWHU __	

3OHDVH QRWH 6WXGHQWV DUH VWURQJO\ HQFRXU
UHTXLUHPHQWV IRU WUDQVIHU WR KLJKHU HGXFDWLRQ

6RFLDO %HKDYLRUDO 6FLHQFHV 6+&
6HOHFWZRRXUVHV 7KRVH FRXUVHVWZRVW EH IURI
GLIIHUHQW GLVFLSOLQHV DUHDV
(FRQRPLFV (&2
+LVWRU\ +,6
3ROLWLFDO 6FLHQFH 32/
3V\FKRORJ\ 36<
6RFLRORJ\ 62&

0DWKHPDWLFV
6HOHFWRXUVH IURP WKH IROORZLQJ 0$7

1DWXUDO 6FLHQFHV 6+&
6HOHFWIURP WKH IROORZLQJ
$VWURQRP\ 67
%LRORJ\ %,2
&KHPLVWU\ &+0
*HRORJ\ *(/
3K\VLFV 3+< $

$''$7,21$/ *(1(5$/ ('8&$7,21 +2856 6+&

2WKHU 5HTXLUHG *HQHUDO (GXFDWLRQ 6+&
7KH IROORZLQJ FRXUVH LV UHTXLUHG
62& 6RFLDO 'LYHUVLW\

$Q DGGLWLRQDO RI FRXUVHV VKRXOG EH VHOHFWH
EHORZ 7KRVH FRXUVHV DUH FDWHJRUL]HG DV JHQHUDO HGXFD
&RPSUHKHQVLYH $UWLFXODWLRQ $JUHHPHQW 6
WKHVH FRXUVHV EDVHG RQ WKHLU LQWHQGHG PD
:KLOH PRVW RI WKHVH DUH QRW 8*(7& FRXUVHV
DOVR EHKXLWHGDLQJRU\ LI QRW XVHG HOVHZKHUH

$17
%,2 DQG $
&+0
&,6
&20
'5$
(&2
(1*
)5(
*(2
+,6
+80
0$7
086

(1* :ULWLQJ 5HVHDUFK
0$7 0DWK 8*(7& FRXUVH
62& 6RFLDO 'LYHUVLW\

(QJLQHHULQJ $UWLFXODWLRQ $JUHHPHQW $ (
PXVW REWDLQ D JUDGH RI ³D&QGRU EHWWHU LQ HI
OHDVW VRFLDOH

&2856(6 6(0(67(5+2856

*(1(5$/ ('8&$7,21 6+&
7KHQJHUDO HGXFDWLRQ FRXUVHV WKDW DUH QRW FO
FRPSRVLWLRQV DQG PDWKHPDWLFV VRFLDO DQG
VFLHQFHV QDWXUDO VFLHQFHV DQG PDWKHPD

81,9(56/ *(1(5$/ ('8&$7,21 75$16)(5
&20321(17 8*(7&RXUVHV WKDW DUH QRW FO
8*(7& DUH LWDOLFL]HG

(QJOLVK &RPSRVLWLRQ 6+&
7ZR (QJOLVK FRPSRVLWLRQ FRXUVHV DUH UHT
(1* DQG (1*

+XPDQLWLHV)OQH&RHPXQLFDWLRQ
+XPDQLWLHV &KRRVH RQH
/LWHUDWXUH (1*
3KLORVRSK\ 3+,
)LQH $UWV DQG &RPPXQLFDWLRQ &KRRVH RQ
$UW $57
&RPPXQLFDWLRQ &20
0XVLF 086

6RFLDO %HKDYLRUDO 6FLHQFHV 6+&
2QH FRXUVH UHTXLUHG
(FRQRPLFV (&2
6HOHFW VHFRQG FRXUVH IURP WKH IROORZLQ
+LVWRU\ +,6
3ROLWLFDO 6FLHQFH 32/
3V\FKRORJ\ 36<
6RFLRORJ\ 62&

0DWKHPDWLFV 6+&
&DOFXOXV , 0$7 WKH FOREHWWHU EHWWHU FRXUVH WKDW
EH DFFHSWHG WR WKH HQJLQHHULQJ SURJUDPV D PD
FUHGLW FRXUVHV ZKR DUH EHLQJ FRQVLGHUHG DGLV
PDWK FRXUVHV
&DOFXOXV 0$7 1RWH 0$7 ZLOO EH*(7&
FRXUVH

1DWXUDO 6FLHQFHV 6+&
7DNH DOO RI WKH IROORZLQJ
&KHPLVWU\ &+0
3K\VLFV 3+<

$'',7,21$/ *(1(5$/ ('8&$7,21 +2856+&
6HOHFW RQH FRXUVH QRW XVHG HOVHZKHUH IU
%LRORJ\ %,2
&KHPLVWU\ &+0
&RPPXQLFDWLRQ &20
(FRQRPLFV (&2
*HRORJ\ *(/
+XPDQLWLHV +80
3KLORVRSK\ 3+,

727$/ *(1(5$/ ('8&$7,21 +2856 5(48,5('
6+&

27+(5 5(48,5(' +2856+&

$FDGHPLF 7UDQVLWLRQ
7KH IROORZLQJ FRXUVH LV UHTXLUHG
$&$ &ROOHJH 7UDQVIHU 6XFFHVV
6WXGHQWV PXVW FRPSOHWH WKLV FRXUVH
HQUROOPHQW

3URFHDMRU (OHFWLYH 6+&
(*5 ,QWURGXFWLRQ WR (QJLQHHULQJ

2WKHU *HQHUDO(GXFDWLRQ(OHFWLYH +RXUV
6+&
6HOHFW&W &IURP WKH IROORZLQJ FRXUVHV FODVV
PDMRU HOHFWLYH RU GXEEHWLRQ XFRXUVHV
HOVHZKHUH LQ WKH &RPSUHKHQVLYH $UWLFXODV
6WXGHQWV VKRXOG FKRRVH FRXUVHV DSSURS
XQLYHUVLW\ DQG HQJLQHHULQJ PDMRU UHTXLU
%LRORJ\ %,2
&KHPLVWU\ &+0
&RPPXQLFDWLRQ &20
&RPSXWHU 6FLHQFH &6&
'UDIWLQJ ')7
(FRQRPLFV (&2
(QJLQHHULQJ (*5
*HRORJ\ *(/
+XPDQLWLHV +80
0DWKHPDWLFV 0$7
3K\VLFDO (GXFDWLRQ 3('

727$/ 6(0(67(5 +2856 &5(',7 6+& ,1 352*5$0

6WXGHQWV PXVW PHHW WKH UHFHLYLQJ XQLYHUV
KHDOWK DQG SK\VLFDO HGXFDWLRQ UHTXLUHPHQ
DIWHU WUDQVIHU WR WKH VHQLRU LQVWLWXWLRQ

6WXGHQWV SHXDUVX&LQJPDFDO (QJLQHHULQJ GHJ
&+0 DQG &+0 &+0 LV D SUHUHTXLVLWH WR &+

6WXGHQWV SHXDUVX&LQJ (QJLQHHULQJ GHJUHH

2QH VHPHVWHU KRXU RI FUHGLW PD\ EH LQFO
LQ HQJLQHHULQJ SURJUDP RIVVKRXGU LV7KHRWU
JXDUDQWHHG

$VVRFLDWH LQ (QJLQHHULQJ &RXUVH

	&RXUVH + 6HPHV 3HU :HH +RXU &OD /DE &UHG
),567 6(0(67(5)DOO	
$&$ &ROOHJH 7UDQVIHU	
(1* :ULWLQJ DQG ,QTXLL	
0$7 &DOFXOXV ,	
&+0 *HQHUDO &KHPLVWU	
(*5 ,QWUR WR (QJLQHHU	_ _ _
6(&21' 6(0(67(5 6SULQJ	
(1* :ULWLQJ 5HVHDUFK I	
0$7 &DOFXOXV ,,	
(&2 3UQR I 0LFURHFRQRPL	
+XP DQLW*(F&V FRXUVH	
$GGLWLRQDO *HQ (G	___ ___ ___

0XVLF 086
3KLORVRSK\ 3+,

6RFLDO %HKDYLRUDO 6FLHQFHV 6+&
6HOHFW WZR RXU 7HKVRVH FRXUVHV RU WZR 2WKHU FRXUVHV WR EH HQW
GLVFLSOLQH DUHDV
(FRQRPLFV (&2
+LVWRU\ +,6
3RLWLFDO 6FLHQFH 32/
3V\FKRORJ\ 36<
6RFLRORJ\ 62&

0DWKHPDWLFV 6+&
0$7 4XDQWLWDWLYH /LWHUDF\

1DWXUDO 6FLHQFHV 6+&
6HOHFW 6+& IURP WKH IROORZLQJ
$VWURQRP\ 67
%LRORJ\ %
&KHPLVWU\ &+0
*HRORJ\ *(/
3K\VLFV 3+<

27+(5 5(48,5(' +2856 6+&

$FDGHPLF 5HODWHG 6+&
$&$ &ROOHJH 7UDQVIHU 6XFFHVV

0DMRU &RUH

Music Theory 7KH IROORZLQJ FRXUVHV 6+& UHTXLUHG
086 0XVLF 7KHRU\ ,
086 0XVLF 7KHRU\ ,,
086 0XVLF 7KHRU\ ,,,
086 0XVLF 7KHRU\ ,9

Aural Skills 7KH IROORZLQJ FRXUVHV DUH UHTXLUH
086 $XUDO 6NLOOV ,
086 $XUDO 6NLOOV ,,
086 $XUDO 6NLOOV ,,,
086 $XUDO 6NLOOV ,9

AppliedMusic 7KH IROORZLQJ FRXUVHV DUH UHTXLU
086 $SSOLHG 0XVLF ,
086 $SSOLHG 0XVLF ,,
086 $SSOLHG 0XVLF ,,,
086 $SSOLHG 0XVLF ,9

3K\VLFV 3+< $

27+(5 5(48,5(' +285 66+&

0DMRU &RUH
$57 $UW +LVWRU\ 6XUYH\ , 6+&
$57 $UW +LVWRU\ 6XUYH\ ,, 6+&
$57 7ZR'LPHQVLRQDO 'HVLJQ 6+&
$57 7KUHH'LPHQVLRQDO 'HVLJQ 6+&
$57 'UDZLQJ , 6+&

$UW 6WXGLR (OHFWLYHV

Select six courses from Art Studio Electives (choose at least one from each of the three groups.)

Two-dimensional Electives:
$57 'UDZLQJ ,, 6+&
$57)LJXUH 'UDZLQJ , 6+&
$57 3ULQWPDNLQJ , 6+&
$57 3ULQWPDNLQJ ,, 6+&
$57 3DLQWLQJ , 6+&
$57 3DLQWLQJ ,, 6+&

Three-dimensional Electives:
$57 6FXOSWXUH , 6+&
$57 &HUDPLFV , 6+&

Digital Electives:
$57 'LJLWDO 'HVLJQ
$57 'LJLWDO 3KRWRJUDSK\ , 6+&

3RUWIROLR DQG 5HVXPH 6+&
$57 3RUWIROLR DQG 5pVXPp
9DOWGHQ RI WKH OHYHO RI DFKLHYHPHQW LQ
EH GHWHUPLQHG WKURXJK SRUWIROLR UHY
LQVWLWXWLRQ

$FDGHPLF 7UDQVLWLRQ 6+&
7KH IROORZLQJ FRXUVH LV UHTXLUHG
$&$ &ROOHJH 7UDQVIHU 6XFFHVV

727$/ 6(0(67(5 52856 &5(',76 ,1 352*5$0

6WXGHQWV PXVW PHHW WKH UHFHLYLQJ XQLYH
KHDOWK DQG SK\VLFDO HGXFDWLRQ UHTXLUHPH
DIWHU WUDQVIHU WR WKH VHQLRU LQVWLWXWL

$VVRFLDWH LQ9LVXDO6WXGLHV6HTXHQ ([DPSOH

&RXUVH 6HPHV
3HU :HH +RXU
&OD /DE &UHG

),567 6(0(67(5)DOO
$&$ &ROOHJH 7UDQVIHU
$57 7ZRLPHQVLRQDO 'HV
$57 'UDLQJ ,
(1* :ULWLQJ ,QTXLU\
0$7 0DWK 8*(7& FRXUVH

6$1'+,//6 &20081,&$7,21 //(*(

'5$ 6WDJHXGSDNH6+&
'5$ 3OD\ 3URGXFWLRQ ,, 6+&

$FDGHPLF 7UDQVLWLRQ 6+&
7KH IROORZLQJ FRXUVH LV UHTXLUHG
$&$ &ROOHJH6XFFHVV

727$/ 6(0(67(5 +2856 &5(',7 6+& ,1 352*5$0

2QH VHPHVWHU KRXU RI FUHGLW PD\ EH LQFOX
LQ)LQH $UWV LQ 7KHDWUH SURJUDP RI VWXG\
QRW JXDUDQWHHG

$VVRFLDWH LQ)LQH$UWV&RXUVH7KHDWUH
([DPSOH

&RXUVH + 6HPHV
3HU :HH +RU

'5$ (OHFWLYHV
'5$ &KLOGUHQ¶V 7KHDW
'5$ 6WDJH 0DNH
'5$ 3OD\ 3URGXFWLRQ ,,

```
    $VWURQRP\  $67$
    %LRORJ\  %,2
    &KHPLVWU\  &+0
    *HRORJ\  *(/
    3K\VL3F+V<        $

27+(5 5(48,5(' +2856    6+&

 0DMRU &RUH
  '5$    6WDJHFUDIW ,    6+&
  '5$    6WDJHFUDIW ,,    6+&
  '5$    3OD\ 3URGXFWLRQ ,    6+&
  '5$    7KHDWUH +LVWRU\ ,    6+&
  '5$    7KHDWUH +LVWRU\ ,,    6+&

 7HFKQLRÂ–FUDFNVWULEHWVpÃ&HC
  7KH IROORZLQJ FRXUVHV DUH UHTXLUHG
   '5$    $FWLQJ ,  6+&
   '5$ '5$OD\
```

0DWKHPDWLFV 6+&
6HOHFW WRSLFV IURP WKH IROORZLQJ EH D
OHYHO FRXUVH
0$7

1DWXUDO6FLHQFH
6HOHFW 6+&FLHQFH VXEMHFW VHTXHQFH IURP WKH IROORZ
%,2 *HQHUDO %LRORJ\ 6+&HQHUDO
%LRORJ\ ,,RU 6+&
&+0 *HQHUDO &KHPLVWU\ 6+&
*HQHUDO &KHPLVWU\ ,, 6+&
3+< &OOHJH 3K\VLFV &OOHJH
3K\VLFV ,,RU6+&
3+< *HQHUDO 3K\VLFV 6+&HQHUDO
3K\VLF ,, 6+&

$''7,2 pßàÐC&HëÂ –ëËÂ –_#syÝ$î¼!™÷8 'ò7^ 2dŽ¼!™o

FRXUVHV DQG $GGLWLRQDO *HQHUDO (GXFDV
DOVR EH XVHJGRUL\Q LMKQLRWFDXWHG HOVHZKHUH

$&&
$17
$OO $57 3UHIL[&RXUVHV
%,2
%86
&+0 DQG $
&-&
&20
&6&
&76
')7
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)5(
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2dŽ¼ ™o # •ÙfžE1H °+€, ™o àà 2dŽ E1H b
+89–ñŽ C&HëÂdŽb

0$7 0DWK 8*(7& FRXUVH
%,2 &+0 RU 3+<,
8*(7& FRXUVH
+XP)$ &RP

&2856(6 6(0(67(5+2856

81,9(56$/ *(1(5$/ ('8&$7,21$/ 6(5 &20321(17 6+&

7KH 8QLYHUVDO *HQHUDO (GXFDWLRQ 7UDQVI LQFOXGHV VWXG\ LQ WKH DUHDV RI KXPDQLWL VRFLDO DQG EHKDYLRUDO VFLHQFHV QDWXUD (QJOLVK FRPSRVLWLRQ

(QJOLVK &RPSRVLWLRQ 6+&

7ZR (QJOLVK FRPSRVLWLRQ FRXUVHV DUH UHT (1* DQG (1*

+XPDQLWLHV)LQH $UWV 6+&

5HTXLUHG &RPPXQLFDWLRQ FRXUVH &RPPXQLFDWLRQ &20

6HOHFW RQH RI WKH FRXUVH \RX KDYH QRW DOUHDG \ $UW $57 'UDPD '5$ /LWHUDWXUH (1* 0XVLF 086 3KLORVRSK\ 3+,

6RFLDO %HKDYLRUDO 6FLHQFHV 6+&

6HOHFW RQH RI WKH FRXUVH \RX KDYH QRW DOUHDG \ (FRQRPLFV (&2 +LVWRU\ +,6 3ROLWLFDO 6FLHQFH 32/ 3V\FKRORJ\ 36< 6RFLRORJ\ 62&

0DWKHPDWLFV

6HOHFW WZR FRXUVHV IURP WKH IROORZLQJ 2QH FRX OHYHO FRXUVH 0$7

1DWXUDO 6FLHQFHV 6+&

6HOHFW 6+& FRXUVH VHTXHQFH IURP WKH IROO %,2 *HQHUDO %LRORJ\ %,2 6+& *HQHUDO %LRORJ\ &+0 *HQHUDO &KHPLVWU\ &+0 6+& *HQHUDO &KHPLVWU\ ,, 6+& 3+< &ROOHJH 3K\VLFV 3+< &ROOHJH 3K\VLFV ,, RU 6+& 3+< *HQHUDO 3K\VLFV 3+< *HQHUDO 3K\VLFV ,, 6+&

$''(1'80 72 7+(*(1(5$/ ('8&$7,21 +2856 6+&

2WKHU 5HTXLUHG *HQHUDO (GXFDWLRQ 6+&
7KH IROORZLQJ FRXUVH LV UHTXLUHG
62& 6RFLDO 'LVFRYHU\

6HOHFW DQ DGGLWLRQDO FRXUVH IURP WKH OLVW EH
FRXUVHV DUH FODVVURRP DFWLYLWLHV RU FRP
VFLHQFH JHQHUDO HGXFDWLRQ FRXUVHV IURP
$UWLFXODWLRQ $JUHHPHQW 6RPH DUH 8*(7& FRX
VHOHFW WKHVH FRXUVHV EDVHG RQ WKHLU LQV
XQLYHUVLW\

$67 DQG $
%,2 DQG $
&+0
&,6
*(/
0$7
3+< DQG $

727$/ *(1(5$/ ('8&$7,21 +2856 5(48,5(' 6+&

27+(5 5(48,5(' +2856 6+&

(GXFDWLRQ&
7KHVH FRXUVHV DUH UHTXLUHG
('8 7HDFKLQJ DQG /HDUQLQJ IRU $OO
('8)RXQGDWLRQV RI (GXFDWLRQ
('8 7HDFKHU /LFHQVXUH 3UHSDUDWLRQ
('8 /LWHUDF\ 'HYHORS DQG ,QVWUXFW

6WXGHQWV ZKR KDYH FRPSOHWHG 7HDFKHU &D
3URIHVVLRQDO LQ KLJK VFKRRO ZLWK D % RU EH
WKDW FRXUVH IRU ('8 7HDFKLQJ DQG /HDUQL

$FDGHPLF 7UDQVLWLRQ
7KH IROORZLQJ FRXUVH LV UHTXLUHG
$&$ &ROOHJH 7UDQVIHU 6XFFHVV

727$/ 6(0(67(5 +2856 &5(',7 6+& ,1 352*5$0

6WXGHQWV PXVW PHHW WKH UHFHLYLQJ XQLYHUV
KHDOWK DQG SK\VLFDO HGXFDWLRQ UHTXLUHPHQ
DIWHU WUDQVIHU WR WKH VHQLRU LQVWLWXWLRQ

$VVRFLDWH LQ 6FLHQFH &RXUVH 6H

	&RXUVH 3HU &OD	+ :HH /DE	6HPHV +RXU &UHG
),567 6(0(67(5)DOO			
$&$ &ROOHJH 7UDQVIHU			
('8 7HDFKLQJ DQG /HDU			
(1* :ULWLQJ DQG ,QTXLU			
0$7 0DWK 8*(7& FRXUVH			
%,2 &+0 RU 3+< ,			
8*(7& FRXUVH	___	___	_
6(&21' 6(0(67(5 6SULQJ			
('8 /LWHUDF\ 'HYHORS D			
0$7 0DWK 8*(7& FRXUVH			
62& 6RFLDO 'LYHUVLW\			
%,2 &+0 RU 3+< ,,			
8*(7& FRXUVH	___	___	_
7+,5' 6(0(67(5)DOO			
('8)RXQGDWLRQV RI (G			
(1* :ULWLQJ 5HVHDUFK I			
+XP)$ 8*(7& FRXUVH			
6RF %HKDY 6FLHQFH			
$GGLWLRQDO *(QG FRXUVH			

$33/,(' 6&,(1&(352*5$06

6DQGKLOOV &RPPXQLW\ &ROOHJH RIIHUV D YDUL
GHVLJQHG WR SUHSDUH WKH JUDGXDWH IRU D PH
SHUIRUPDQFH RQ WKH SURJUDP PXVW EH FRPSOHWHG DV
&ROOHJLDWH WKDW SHUFHQW FRPLQJ IURP PDMRU
QRW IURP JHQHUDO HGXFDWLRQ ,QVWUXFWRUV WKH
JUDGXDWHV RI $VVRFLDWH LQ SUHSDUHG IRU
SXUVXH D EDFFDODXUHDWH GHJUHH DW D VHQLRU
D FRXUVH RI DFWLRQ DUH HQFRXUDJHG WR GLVFXV
WKHLU DGYLVRUV &HUWDLQ $ $ 6 SURJUDPV RIIH

JUDGXDWHDVWRHGXFDWH SURJUDPV DUH UHTXLUH
DW OHDVW RQH PDWKHPDWLFVLQWHQVLYHFRXUVHWDXJKWHYHU\

$VVRFLDWH LQ $SSOLHG 6FLHQFH *HQH

*HQHUDO (GXFDWLRQ HOHFWLYHV

'LSORPD 3URJUDPV

2QH HDU GLSORPD SURJUDPV KDYH EHHQ HVWDEOL
VWXGHQWV WR RU DGYDQFH WR DGYDQFHPHQW LQ VNLOO
D GLSORPD VWXGHQWV PXVW VXFFHVVIXOO\ FRPS
WKH GLSORPD SURJUDP LQ $PHULFDQ 6LJQ ODQJXDJH
WKH SURJUDP PXVW EH RIIHUHG E\ D &RPPXQLW\ &ROOHJH
SHUFHQW FRPSOHWLRQ UDWH RYHU WKUHH \HDUV JHQH
HGXFDWLRQ KRXUV IRU WKH SURJUDP DUH GLVWULEXWHG
SURJUDP DUH OLVWHG EHORZ &RPSOHWLRQ RI WKH SHUVRQDO
3URJUDP RI 6WXG\ &RXUVHV RQ WKLV

&HUWLILFDWH 3URJUDPV

0DQ\ $ $ 6 SURJUDPV RIIHU D FHUWLILFDWH RSWL
WZHOYH KRXUV RI GHWDLOHG DQDWRPLFDO FXUULFXOXP $ PL
SHUFHQW WKUHVKROG PXVW EH FRPSOHWHG DW 6DQGKL
7KH UHTXLUHPHQWV IRU HDFK FHUWLILFDWH SURJU
GHJUHH LQ WKH 3URJUDP RI &RPPXQLW\ &ROOHJH RI W

6RFLDO %HKDYLRUD

)2857+ 6(0(67(5)DOO
$&&)HGHUDO ,QFRPH 7D
$&& ,QWHUPHGLDWH $FF
%86 %XVLQHVV /DZ ,
%86 3ULQFLSOHV RI 0DQ
%86 %XVLQHVV)LQDQFH

),)7+ 6(0(67(5 6SULQJ
$&& 3D\UROO $FFRXQWLQ
$&& $FFRXQWLQJ 6RIWZD
$&& $FFW 6SUHDGVKHHW
$&& 3UDFWLFHV LQ %RRN
%86 3HRSOH 6NLOOV
(&2 3ULQ RI 0LFURHFRQ
(&2 3ULQ RI 0DFURHFRQ

7RWDO 5HTXLUHG &UHGLWV +RXUV &UHG
7HFKQLFDO (OHFWLYHV
%$) 3ULQFLSOHV RI %DQ
%$6 ,QWUR WR $QDO\WLF
%$6 'DWD 9LVXDOL]DWLR

$&& ,QWRUHFW 6SUHDGVKI
(1* :ULWLQJ 5HVHDUFK |
(1* 3URI 5HVHDUFK 5H
1DWXUDO 6FLHQFH 0
7HFKQLFDO (OHFWLY

7+,6' 6(0(67(5 6XPPHU

6(&21' 6(0(67(5 6SULQJ
$&& 3D\UROO $FFRXQWL(
$&& ,QWUR WR $FF 6SUH
$&& $FFRXQWLQJ 6RIWZD
$&& 3UDFWLFHV LQ %RRN

7RWDO 5HTXLUHG 0LQLPXP &UHGLWV

%XVLQHVV $QDO\WLFV & %

&HUWLILFDWH 3URJUDP

&RXUVH + 6HPHV
3HU :HH +RU
&OD /DE &UHG

),567 6(0(67(5)DOO
$&$ 6XFFHVV 6WXG\ 6N

0DUNHWLQJ $QDO\WLFV & 0

&HUWLILFDWH 3URJUDP

3+< 3K\VLFDO&KDQLFV
3+< &ROOHJH 3K\VLFV ,
3+< *HQHUDO 3K\VLFV ,
'LUHFWHG (OHFWLYHV
&,9 6RLOV DQG)RXQGDW
&,9 6WHHO DQG 7LPEHU
0$7 %ULHI &DOFXOXV
0$7 &DOFXOXV ,
0$7 &DOFXOXV ,,
:%/ :RUN‰DVHG /HDUQLQJ
:%/ :RUN‰DVHG /HDUQLQJ
:%/ :RUN‰DVHG /HDUQLQJ
:%/ :RUN‰DVHG /HDUQLQJ

% D B™ôDUÐ @

ëÂ ¼ÆÆ¼Ê¼ÆÆ¼Ê¼ÆÆ¼Ê

$XWRPRWLYH 7HFKQRORJ\

&XUULFXOXPV LQ WKH 0RELOH (TXLSPHQW 0DLQW
SUHSDUH LQGLYLGXDOV IRU HQWU\ OHYHO SRVLWLRQV LQ WKH
WHFKQLFLDQV 7KH SURJUDP SURYLGHV DQ LQWURGXFWRU
FDUHHUV DQG LQFUHDVHV VWXGHQW DZDUHQHVV R
ZLWK WKLV G\QDPLF DQG FKDOOHQJLQJ ILHOG

&RXUVH ZRUN PD\ LQFOXGH WUDQVSRUWDWLRQ V
FOLPDWH FRQWURO GHVLJQ FDUHHU GHYHORSPHQW
HQJLQH UHSDLU HQJLQH SHUIRUPDQFH HQYLUR

```
6(&21' 6(0(67(5  6SULQJ
$80      0DQDJLQJ $XWRPRW
$87      %UDNH 6\VWHPV
$87   $  %UDNH 6\VWHPV /DE
$87      (QJLQH 3HUIRUPDQF
751      %DVLF :HOGLQJ IRU   _     _     _

7+,5' 6(0(67(5  6XPPHU
(1*      :ULWLQJ DQG ,QTXL
751      7UDQVSRUWDWLRQ &RQW
751   $  7UDQVSRUWDWLRQ &RQW   _     _     _

)2857+ 6(0(67(5  )DOO
$87      (QJLQH 5HSDLU
$87   $  (QJLQH 5HSDLU /DE
$87
```

$87 6XVSHQVLRQ6\V6WHH

$33/,(' 6&,(1&(35Ø65$

&RXUVHZRUNERQFOXGHV IXQGDPHQWDOV RI IOLJKW
SHUIRUPDQFH PHWHRURORJ\ QDYLJDWLRQ IH
PDQDJHPHQW XQPDQQHG DLUFUDIW V\VWHPV DQ
JURXQG WUDLQLQJ IOLJKW DQG QHWZRUNVRSHUDWLRQV
EXVLQHVV PDQDJHPHQW WUDLQLQJ

*UDGXDWHV PD\ HDUQ D FRPPHUFLDO SLORW FHUW
VSHFLDOL]H LQ DYLDWLRQ PDQDJHPHQW V\VWHPV
HPSOR\PHQW DV FRPPHUFLDO FRUSRUDWH DQG
RSHUDWRUV DQG DLUSRUW PDQDJHUV DV SLORW
DLUFUDIW V\VWHPV LQGXVWU\ RU DV IOLJKW LQV\

6WXGHQWV LQ WKH $YLDWLRQ 0DQDJHPHQW DQG &
ZLOO EH UHTXLUHG WR
ZLWKLQ WKUHH \HDUV

3+<	&RQFHSWXDO 3K\VL			
3+< $	&RQFHSWXDO 3K\VL	_	_	_
7+,5' 6(0(67(5	6XPPHU			
&20	,QWUR ,QWHUSHUVF			
&20	3XEOLF 6SHDNLQJ			
%86	%XVLQHVV &RPPXQ			
	+XPDQLWLHV)LQH $	_	_	_
)2857+ 6(0(67(5	)DOO			
$(5	$YLDWLRQ 0DQDJHP			
$(5	&RPPHUFLDO)OLJK\			
$(5	$LU 7UDIILF &RQ			
$(5	(QJLQHV DQG 6\VWH			
$(5	+XPDQ)DFWRUV LQ			
	$YLDWLRQ (OHFWLY	_	_	_
),)7+ 6(0(67(5	6SULQJ			
$&&	3UHS RI)LQDQFLDO			
$(5	)OLJKW 6DIHW\			
$(5	$LU 7UDQVSRUWDWI			
36<	*HQHUDO 3V\FKRORJ			
	$YLDWLRQ (OHFWLY	___	_	_

0$7 3UHFDOFXOXV $OJH

%DNLQJ DQG 3DVWU\ $UW

7KLV %DNLQJ DQG 3DVWU\ $UWV &RXUVH GLVFXVVHV WKH VNLOOV DQG NQRZOHGJH UHTXLUHG IRU LQGXVWU\ UHVWDXUDQWV KRWHOV LQ ZKROHVDOH UHWDLORUV EDNHULHV DQG RWKHU VWXGLHV

6WXGHQWV ZLOO EH SURYLGHG WKHRUHWLFDO SURYLGH FULWLFDO DVVHVVPHQW LQGXVWU\ HQYLURQPHQW &RXUVH ZRUN LQFOXGHV VSHFLDOW\ DUWLVDQ ZRUN YRFDEXODU\ SURGXFWLRQ DQG IRRG PDUNHW

* U D G XDWH 6WXGHQW 2XWFRPHV @ = V o() o SD0X M @

FLYLO WUDIILF DQG DOFRKROLF EHYHUDJH OD
FRXUW SURFHGXUHV HPHUJHQF\ UHVSRQVHV D

6WXGHQWV PXVW VXFFHVVIXOO\ FRPSOHWH DQ
WKH 1RUWK &DURLQD &ULPLQDO -XVWLFH (
&RPPLVVLRQ DQG WKH 1RUWK &DURLQD &RXUW
6WDQGDUGV &RPPLVVLRQ WR UHFHLYH D FHUWL

6WXGHQWV VXFFHVVIXOO\ FRPSOHWLQJ D %
FRXUVH DFFUHGLWHG E\ WKH 1RUWK &DURL
6WDQGDUGV &RPPLVVLRQ DQG WKH 1RUWK
7UDLQLQJ 6WDQGDUGV &RPPLVVLRQ -XV
-XVWLFH &ROOHJHV DQG ,QVWLWXWLRQV &
&RXUW 3URFHGXUH DQG (YLGHQFH &RXUV
&-& &RQVWLWXWLRQDO /DZ WRZDUG WKH $VV
LQ &ULPLQDO -XVWLFH 7HFKQRORJ\ 6WXGHQW
(QIRUFHPHQW 7UDLQLQJ VLQFH

%DVLF /DZ (QIRUFHPHQW 7UDLQLQ

&HUWLILFDWH 3URJUDP

	&RXUVH +	6HPHV
	3HUHN	+RXU
	&OD /DE	&UHG
&-& %DVLF /DZ (QIRUFHP	__ __	__
7RWDO 5HTXLUHG 0LQLPXP 6HPHVWHU		__

%XVLQHVV $GPLQLVWUDWL

7KH %XVLQHVV $GPLQLVWUDWLRQ &XUULFXOXP

0.7 3ULQFLSOHV RI 0DUI

7+,5' 6(0(67(5 6XPPHU
(1* :ULWLQJ 5HVHDUFK
(1* 3URI 5HVHDUFK 5H
&20 ,QWURGXFWLRQ
&20 3XEOLF 6SHDNLQJ

7RWDO 5HTXLUHG 0LQLPXP 6HPHVWHU

7HFKQLFDO (OHFWLYHV
$&& $FFWHQGUVKHW $SS

6(&21' 6(0(67(5 6SULQJ
%86 3ULQFLSOHV RI 0DQI
%86 6PDOO %XVLQHVV 0D

7RWDO 5HTXLUHG 0LQLPXP 6HPHVWHU

+XPDQ 5HVRXUFH

7RWDO 5HTXLUHG 0LQLPXP 6HPHVWHU

&LYLO (QJLQHHULQJ 7HFKQR

(QJLQHHULQJ DQG 7HFKQRORJ\ &LYLO (QJLQHHULQJ DQG WHFKQRORJ\ SURYLGHV VWXGHQWV WKH RSSRUWXQLW\ WR DSSO\ PDWKHPDWLFV QDWXUDO VFLHQFHV DQG WHFK WKHVH VXEMHFWV

&RXUVH ZRUN LQFOXGHV PDWKHPDWLFV QDWXU WHFKQRORJ\

*UDGXDWHV VKRXOG TXDOLI\ IRU HQWU SURYLGHUV PDWHULDOV DQG WHFKQRORJLH WHFKQLFLDQV FRQVWUXFWLRQ WHFKQLFLDQV PDQDJHUV RU UHVHDUFK WHFKQLFLDQV

&LYLO (QJLQHHULQJ SURJUDPV KDYH RSSRUWXQLWLHV p€ LD@`p 0XOWLQDWLRQDO FRUSRUDWLRQV DQG JRYHUQPHQW DJHQFLHV DQG SULQFLSOHV DQG

(1* :ULWLQJ DQG ,QTXLU\ 7HFKQRORJ\ (OHFWL ___ ___ ___

6(&21' 6(0(67(5 6SULQJ
&(* ,QWURGXFWLRQ 166
&(* 3URMHFW 0DQDJHPHQW
(*5 (QJLQHHULQJ 'HVLJQ *UDSKL
(1* :ULWLQJ 5HVHDUFK 3U
(1* 3URI 5HVHDUFK 5H
0$7 $OJHEUD DQG &DOFXOXV \
0$7 3UREDELOLW\ $OJHEUD ___ ___ ___

7+,5' 6(0(67(5 6XPPHU
(*5 6WDWLFV
659 6XUYH\LQJ ,

:%/ :RUN DVHG /HDUQLQJ
:%/ :RUN DVHG /HDUQLQJ

&LYLO (QJLQHHULQJ 7HFKQRORJ\

&HUWLILFDWH 3URJUDP

	&RXUVH + 3HU :HH &OD	6HPV +RXU /DE	&UHG
),567 6(0(67(5)DOO			
&(* &RQVWUXFWLRQ0DWHULDOV			
(*5 ,QWUR WR (QJLQHHU			
(*5 ,QWUR WR (QJLQHH			
(*5 ,QWUR WR 7HFKQRO			
(*5 $,QWUR WR 7HFKQRO	_	_	_
6(&21' 6(0(67(5 6SULQJ			
&(* 3URMHFW 0DQDJHPH			
(*5 (QJDQG 'HVLJQ *UDSK	_	_	_
7+,5' 6(0(67(5 6XPPHU			

HOHFWULFDO FRPSRQHQWV SODVWLFV DQG DGK
WHFKQLTXHV DQG GDPDJH DQDO\VLV DQG HVWLPD

8SRQ FRPSOHWLRQ RI WKLV FXUULFXOXP VWXGHQ
$6(H[DPV DQG EHWWHU RSSRUWXQLWLHV IRU OXFUDWLYH 0DLQWHQDQFH OR\PHQW LQ GH
DQG UHSDLU VKRSV LQ WKH DXWRPRWLYH VHUYLFH

%HFDXVH WKH XVH RI FRPSXWHUV LV LQWHJUDO W
GHOLYHUHG LQ DQG RXW RI FODVV

&ROOLVLRQ 5HSDLU 5HILQLVKLQJ 7HFK

$VVRFLDWH LQ $SSOLHG 6FLHQFH 'HJUHH 3

&RXUVH + 6HPHV
3HU :HH +RXU'
&OD /DE &UHG

),567 6(0(67(5)DOO
$&& 6XFFHVV 6WXG\ 6NL
$87 6XVSHQVLRQ 6WHHO
$87 $ 6XVSHQVLRQ 6WHHO
0$7 0DWK 0HDVXUHPHQW
KLJKHU

$33/,(' 6&,(1&(35Ø65$

$8% 6WUXFWXUDO 'DPDJH
+XPDQLWLHV(O)HLFQWLS$U _ _ _

6,;7+ 6(0(67(5 6XPPHU
$8% 3ODVWLFV $GKHVLY
5HVWULFWHG (OHFWI ___ ___ ___

7RWDO 5HTXLUHG 0LQLPXP 6HPHVWHU + ___
5HVWULFWHG (OHFWLYHV
$8% 6SHFLDO)LQLVKHV
$8% 6WUXFWXUDO 'DPDJH
$8& $XWR &XVWRPL)QEUL
$8& &XVWRP)LEHUJODVV X9à ÿ6Q>à

&ROOLVLRQ 5HSDLU 5HILQLVKLQJ 7H

'LSOR3PUDR JUDP

$8& &XVWRP)LEHUJODV\

$XWRPRWLYH)LEHUJODVV &RPSRVLWHV

&HUWLILFDWH 3URJUDP

&RXUVH 6HPHV
3HU :HH +RXU
&OD /DE &UHG

),567 6(0(67(5)DOO
$&$ 6XFFHVV 6WXG\ 6N

$33/,(' 6&,(1&(35(3$5$725<

6(&21' 6(0(67(5 6SULQJ
$8% 3DLQWLQJ 5HILQLV _ _ _

7RWDO 5HTXLUHG 0LQLPXP 6HPHVWHU _

6WUXFWXUDO 5HSDLU

&HUWLILFDWH 3URJUDP

&RXUVH + 6HPHV
3HU :HH +RXU
&OD

*UDGXDWHV VKRXOG TXDOLI\ IRU HPSOR\PHQW
WHFKQRORJ\ FRPSXWHU VHUYLFH QWRHSDXHU Q
SURJUDPPLQJ DQG RWKHU DUHDV UHTXLULQJ N
FRPSXWHU V\VWHPV *UDGXDWHV PD\ DOVR TXDOL
FRPSXWHUV RU QHWZRUNV

&(7±,7 6XSSRUW $ 68

$VVRFLDWH LQ $SSOLHG 6FLHQFH 'HJUHH 3

&RXUVH +I 6HPHV
3HU :HH +RU
&OD /DE &UHG

),567 6(0(67(5)DOO
$&$ 6XFFHVV 6WXG\ 6N
&,6 ,QWURGXFWLRQ WR
(/& &LUFXLW $QDO\VLV ,
1(7 ,QWURGXFWLRQ WR

'%$ 'DWDEDVH &RQFHSW
126 :LQGRZV $GPLQLVWU

If you choose WBL as a Technical Elective, you must complete 3 Credit Hours from the classes below.

:%/ :RUNEDVHG /HDUQLQJ
:%/ :RUNEDVHG /HDUQLQJ

&(7±

6(&21' 6(0(67(5 6SULQJ
1(7 5RXWLQJ %DVLFV _ _ _

7RWDO 5HTXLUHG 0LQLPXP 6HPHVWHU _

&(7±6HFXULW\ & 6(

&HUWLILFDWH 3URJUDP

&RXUVH + 6HPHV
3HU :HH +RXU
&OD /DE &UHG

),567 6(0(67(5)DOO
$&$ 6XFFHVV DQG 6WXG\
1(7 ,QWURGXFWLRQ WR
6(& 6HFXULW\ &RQFHSW\ _ _ _

6(&21' 6(0(67(5 6SULQJ
1(7 5RXWLQJ %DVLFV

&RVPHWRORJ\

$VVRFLDWH LQ FRPSXWHU 6FLHQFH

)LUVW 6HQGRQGXUK 6HPHVWHUV PD\ EH WDNHQ H

&RXUVH 6HPHV
3HU :HH +RXU
&OD /DE &UHG

),567 6(0(67(5)DOO
&26

&RVPHWRORJ\ '

'LSORPD 3URJUDP

&26 6DORQ ,,,

7RWDO 5HTXLUHG 0LQLPXP 6HPHVWHU

&ULPLQDO -XVWLFH 7HFKQRO

7KH &ULPLQDO -XVWLFH 7HFKQRORJ\ &XUULFXO
NQRZOHGJH RI FULPLQDO MXVWLFH V\VWHPV DQG
ORFDO VWDWH DQG IHGHUDO SUDFWLFHV 7KH FU
VHFXULW\ VHUYLFHV 7KH FULPLQDO MXVWLFH V\
H[SORUHG

(PSKDVLV LV RQ FULPLQDO MXVWLFH V\VWHPV
FULPLQDO DQG FRQVWLWXWLRQDO LVVXHV DQG
FRPPXQLW\ UHODWLRQV $GGLWLRQDO VWXG\ PD\
JRYHUQPHQW FRXQVHOLQJ FRPPXQLFDWLRQV FR

&-& ,QWURGXFWLRQWRFULPLQDO
&-& &ULPLQRORJ\ _ _ _

6(&21' 6(0(67(5 6SULQJ
&-& /DZ (QIRUFHPHQW 2S
&-& &ULPLQDO /DZ _ _ _

7RWDO 5HTXLUHG 0LQLPXP 6HPHVWHU

&ULPLQDO -XVWLFH 7HFKQRORJ\ 0RGXOH

)RUHQVLF 6FLHQFH6FLHQFH• P€Q•HIŽ¼U €

&-& ,QWUR WR &UWLPLQDO
&-& &ULPH 6FHQH 3URFH
&-& 7UDFH (YLGHQFH
&-& ,QYHVWLJDWLYH 3UL
(1* :ULWLQJ DQG ,QTXLU _ _ _

6(&21' 6(0(67(5 6SULQJ
&,6 ,QWURGXFWLRQ WR
 &,6 %DVLF &RPS /LWHUDF\
&-& &ULPH 6FHQH 3KRWR
&-& &ULPLQDO /DZ
&-&)RRWZHDU DQG 7LUH
(1* :ULWLQJ 5HVHDUFK I
 (1* 3URI 5HVHDUFK 5H
36< *HQHUDO 3V\FKRORJ _ _ _

7+,5' 6(0(67(5 6XPPHU
&-& (WKLFV &RPP 5HOD
&-&)ULFWLRQ 5LGJH $QI _ _ _

)2857+ 6(0(67(5)DOO
%,2 3ULQFLSOHV RI %LR
&-& &ULPLQRORJ\

7+,5' 6(0(67(5 6XPPHU
&-&)ULFWLRQ 5LGJH $QDO _ _ _

7RWDO 5HTXLUHG 0LQLPXP 6HPHVWHU _

&XOLQDU\ $UWV

7KLV FXUULFXOXP

(1* :ULWLQJ DQG ,QTXLU
+XPDQLWLHV)LQH $
7HFKQLFDO (OHFWLY ___ ___ ___

7+,5' 6(0(67(5 6XPPHU
&8/ 0HQX 'HVLJQ
&8/ *UDGH 0DQJHU ,
6RFLDO %HKDYLRUD _ _ _

)2857+ 6(0(67(5)DOO
&8/ :LQH $SSUHFLDWLRQ

(DUO\ &KLOGKRRG (GXFDWLRQ $

$VVRFLDWH LQ $SSOLHG 6FLHQFH 'HJUH

&RXUVH + 6HPHV
3HU :HH +RU
&OD /DE &UHG

),567 6(0(67(5)DOO
$&$ 6XFFHVV 6WXG\ 6N
('8 ,QWUR WR (DUO\ &KL
('8

(DUO\ &KLOGKRRG (GXFDWLRQ LQ WKH 7UDQVIHU $ 1/

$VVRFLDWH LQ $SSOLHG 6FLHQFH 'HJUH

&RXUVH	6HPV
3HU :HH	+RXU
&OD /DE	&UHG

),567 6(0(67(5)DOO

$&$	6XFFHVVIXO\ 6NLOOV			
('8	,QWUR WR (DUO\ &KL			
('8	&KLOGKRRG HORSPHQW ,			
('8	&UHDWLYH $FWLYLW			
	6RFLDO %HKDYLRUD	_	_	_

(06 7UDXPD (PHUJHQFLH\ _ _ _ _

)2857+ 6(0(67(5)DOO
(06 (06 &OLQLFDO 3UDFW
(06 1

(19 (QYLURQPHQWDO /D

(PSOR\PHQW RSSRUWXQLWLHV H[LVW ZLWK I
DJHQFLHV GXVWULDO ILUPV LQVXUDQFH UDWLQ
RUJDQL]DWLRQV

%HFDXVH WKH XVH RI FRPSXWHUV LV LQWHJUDO
GHOLYHUHG LQGDQJHURXV WR

)LUH 3URWHFWLRQ 7HFKQRORJ\

$VVRFLDWHG 6SHQFH 'HJUHH 3URJUD

&RXUVH + 6HPV
3HU :HH +RU
&OD /DE &UHG

),567 6(0(67(5)DOO
$&$ 6XFFHVV 6WXG\ 6N
&,6 ,QWURGXFWLRQ WR

WHFKQLFLDQV FRQVWUXFWLRQLWHFKQLFLDQV
PDQDJHUV RU UHVHDUFK WHFKQLFLDQV

*HRPDWLFV 7HFKQRORJ\

0$7 $OJHEUDQ7UDLQHU\
0$7 3UHFXOXV $OJHEU

*HRPDWHLFKQRJ\ &

&HUWLILFDWH 3URJUDP

	&RXUVH + 6HPHV 3HU :HH +RXU &OD /DE &UHG
),567 6(0(67(5)DOO	
%35 3ULQW 5HDGLQJ UXFW	
&(* ,QWUR WR 7HFK 6X	
&(* $ 7HFK 6XVWDLQDEL(_ _ _	
6(&21' 6(0(67(5 6SULQJ	
&(* ,QWUR WR *,6 DQG *	
(*5 (QJDQG 'HVLJQ *UDSK _ _ _	
7+,5' 6(0(67(5 6XPPHU	
659 6XUYH\LQJ , _ _ _	
7RWDO 5HTXLUHG 0LQLPXP 6HPHVWHU	

+HDOWK DQG)LWQHVV 6FL

7KH +HDOWK DQG)LWQHVV 6FLHQFH SURJUDP L

VWXGHQWV DUH UHVSRQVLEOH IRU

(1* :ULWLQJ DQG ,QTXLU
+)6 ([HFXWLYH 6FLHQFH
+)6)LWQHVV ([HU 7HVW
0(' 6XUYH\ RI 0HG 7HUP

+)6 ([HUFLVH 6FLHQFH
+)6)LWQHVV ([HUFLVH _ _ _

6(&21' 6(0(67(5 6SULQJ
+)6 *URXS ([HU ,QVWUXF
+)6 3HUVRQDO 7UDLQLQ _ _ _

7RWDO 5HTXLUHG 0LQLPXP 6HPHVWHU _

+HDOWK ,QIRUPDWLRQ 7HFK

7KH +HDOWK ,QIRUPDWLRQ 7HFKQRORJ\ &XUULF
NQRZOHGJH DQG VNLOOV DWWU SURRFHVVH DQDOL\WH
DQG UHSRUW KHDOWK LQIRUPDWLRQ

6WXGHQWV ZLOO VXSHUYLVH GHSDUWPHQWDO
GLDJQRVHV DQG SURFHGXUHV FRRUGLQDWH L
PDQDJHPHQW VWDWLVWLFDO PHDVXUHPHWRLQJ RYHUQ
QRJQRYHUQPHQWDO VWDQGDUGV IDFLOLWDWH U
PRQLWRU SDWLHQW LQIRUPDWLRQ VHFXULW\

*UDGXDWHV RI WKLV SURJUDP PD\ EH HOLJLEO
H[DPLQDWLRQ WR EH FRPHDGWKLQIRUPDWLRQ
(PSOR\PHQW RSSRUWXQLWLHV LQFOXGH KRVSL\
KRPHV KHDOWK LQVXUDQFH RUJDQL]DWLRQV R
KRVSLFH DQG PHQWDO KHDOWK IDFLOLWLHV

7KLV SURJUDP1&&&6 SDUWQHU SURJUDP GHOLYH
6HUYLFH $JUHHPHQW WKDW DOORZV 6&& WR RII
WR GHJUHH FRPSOHWLRQ EXW 3LWW &RPPXQLW\

%HFDXVH WKH XVH RI FRVWXPHUV VXUUHQGHUV XLQ WRHDFO
GHOLYHUHG KL\EULGO\ RQOLQH

3LWW&&6 DQG &&3DUWQHU 3URJUDP

3LWW &RPPXQLW\ &ROOHJH 3&& KDV HQWHUHG
ZLWK 6&& WR SURYLGH 6&& VWXGHQWV FUHGH RSS
KRXUV DW 6&& WR EH WUDQVIHUUHG WR WKH 3LWW
+HDOWK ,QIRUPDWLRQ 7HFKQRORJ\ SURJUDP

6WXGHQWV DFFHSWHG LQWR WKLV SURJUDP FD
&RPSOHWH KRXUV RI JHQHUDO UHTXLUHPHQ
WR WKHLU SRU RU
&RPSOHWH VRPH RU DOO RI WKRVH FRXU
HQUROOHG LQ WKH 3&& SURJUDP RQOLQH

3/($6(127((QWU\ LQWR WKH +,7 SURJUDP LV FRQ
UHTXLUHPHQWV $SSOLFDWLRQ DQG WKH SURJUDP P
3&&

7KH +HDOWK ,QIRUPDWLRQ 7HFKQRORJ\ 3URJUD

		+,7 3DWKRSK\ 3KDUPDFRORJ	
		+,7 +,0 &DSVWRQH	
		+6& 2ULHQW +HDOWK &DUH	
		267 'LDJQRVWLF &RGLQJ	

&RXUVH LV HQFRXUDJHG EXW QRW UHTXLUHG 267 VKRXOG EH WDNHQ DIWHU DFFHSWDQFH LQWR WKH GHVLJQDWHG IRU +,7 VWXGHQWV

For more information on this unique offering, contact NeviusToney at toneyn@sandhills.edu or 910-695-3752.

,QGXVWULDO 6\VWHPV 7HFK

7KLV SURJUDP LV RIIHUHG LQ FRRUGLQDWLRQ ZLWK LQGXVWU\ SDUWQHUV &RQW\ FDPSXVHV DQG UHSUHVHQWV D VWHS WRZDUG D 3LQHKXUVW &RQIHUHQFH

7KH ,QGXVWULDO 6\VWHPV 7HFKQRORJ\ FXUULFXOXP GHVLJQ LQGLYLGXDOV WR VDIHO\ VHUYLFH P ,QVWUXFWLRQ LQFOXGHV WKHRU\ SUDFWLFDO DSSOLFDWLRQ DQG GLDJQRVLQJ LQGXVWU

6WXGHQWV ZLOO DOVR UHFHLYH FHUWLILFDWLRQ LQ SU V\VWHPV PDLQWHQDQFH HOHFWULFLW\ K\GUDX RU IDEULFDWLRQ DQG GHVLJQ LQGXVWULDO DSSOLFDWLRQ LQ WKHVH LQGXVWULDO DQG PD DGYDQFHG FRXUVHZRUN PD\ EH

8SRQ FRPSOHWLRQ RI WKLV FXUULFXOXP JUDG RU ZLOO KDYH DVVDIHO\ LQWHUQVKLS DQG PD SURFHVV DQG VXSSRUW 6WXGHQW WKHLU VNLOOV DQG DVVRFLDWHV

6WXGHQWV PD\ UHFHLYH FUHGLW E\ H[DP IRU WKH ,QGXVWULDO FHUWLILFDWLRQV WKURXJK &

%HFDXVH WKH XVH RI FRPSXWHUV LV LQWHJUDO GHOLYHUHG DLQGGKQ\RUQOLQH

,QGXVWULDO 6\VWHPV 7HFKQRORJ\

$VVRFLDWH LQ $SSOLHG 3HUIRUPDQFH 'HJUHH

&RXUVH + 6HPHV
3HU :HH +RXU
&OD /DE &UHG

),567 6(0(67(5)DOO
$&$ 6XFFHVV 6WXG\ 6N
,6& (QYLU +HDOWK 6DI
,6& ,QWUR WR 4XDOLW\ I1D42$—GHl™ •Ð 0
+XPDQLWLHV)LQH $
6RFLDO %HKDYLRUD
‘ &D qD 7a[Rd@G1 @Q + &Dq DF•Ð Wp1 YRd@G @QC {1D sa . ³ @G6 •Ð 0

(/& (OHFWULFDO 0DLQW
0$& &1& 7XUQLQJ
017 &RQWURO 6\VWHPV
017 ,QGXVW (TXLS 7URXE
1(7 ,QWURGXFWLRQ WR
3.* 3NJ 0DFKLQHU\ ,

,QGXVWULDO 6\VWHPV 7HFKQRORJ

'LSORPD 3URJUDP

&RXUVH + 6HPHV
3HU :HH +RU
&OD /DE &UHG

),567 6(0(67(5)DOO

7RWDO 5HTXLUHG 0LQLPXP 6HPHVWHU

0DFKLQLQJ 7HFKQRORJ\

&HUWLILFDWH 3URJUDP

	&RXUVH	6HPHV 3HU :HH	+RXU &OD	/DE	&UHG
),567 6(0(67(5 6SULQJ					
%35 (OF)OXLGL3RZHUV					
(/& 0RWRUV DQG &RQWU					
0$& 0DFKLQLQJ 7HFKQRO					
0$& ,QWUR WR &1&	_	_	_		

7RWDO 5HTXLUHG 0LQLPXP 6HPHVWHU

3URGXFWLRQ 7HFKQRORJLHV

&HUWLILFDWH 3URJUDP

	&RXUVH	6HPHV 3HU :HH	+RXU &OD	/DE	&UHG
),567 6(0(67(5)DOO					
,6& (QYLU +HDOWK 6DI					
,6& ,QWUR WR 4XDOLW\	_	_	_		
6(&21' 6(0(67(5 6SULQJ					
%35 3ULQW 5HDGLQJ					
,6& 3URG 2SHU 0DQDJH					
017 ,QWUR WR 0DLQW 3UF	_	_	_		

7RWDO 5HTXLUHG 0LQLPXP 6HPHVWHU

,QIRUPDWLRQ 7HFKQRORJ\

7KH ,QIRUPDWLRQ 7HFKQRORJLHV 7UDQVIHU &UHGLW 3ROLF\ GHVFULEHV KRZ FUHGLWV HDUQHG DW RWKHU LQVWLWXWLRQV DUH HYDOXDWHG DQG DFFHSWHG DW WKLV FROOHJH

&RXUVH ZRUN LQFOXGHV GHYHORSPHQW RI D VWURQJ FRPPXQLFDWLRQ DQG XVH LQIRUPDWLRQ WR VROYH WR LQIRUPDWLRQ VXSSRUW DQG VHUYLFHV LQW

SURJUDPPLQJ DQG VRIWZDUH GHYHORSPHQW
HPHUJLQJ WHFKQRORJLHV EDVWHXGGRQ WKH VHOH

*UDGXDWHV VKRXOG TXDOLI\ IRU HPSOR\PHQW

),)7+ 6(0(67(5 6SULQJ
&6& 3URJUDPPLQJ &DSVWR
'%$ 64/ 6HUYHU '% 3URJ

6(&21' 6(0(67(5 6SULQJ
&(7 &RPSXWHU 8SJUDGH
&7, :HE 3JP 'E)RXQG
&76 ,QIRV6%XVLQHVV &R
(1* :ULWLQJ 5HVHDUFK

,7±&RPSXWHU 'DWDEDVH & '%

&HUWLILFDWH 3URJUDP

&RXUVH + 6HPHV
3HU :HH +RXU
&OD /DE &UHG

),567 6(0(67(5)DOO
'%$ 'DWDEDVH &RQFHSW
'%$ 'DWDEDVH 3URJUDPI _ _ _

6((0(67(5 6SULQJ
:HE 3JP 'E)RXQG

6*' 6* /HYHO 'HVLJQ _ _ _

)2857+ 6(0(67(5)DOO
6*' 6*' 'HVLJQ ,,
6*' ' 0RGHOLQJ ,, _ _ _

7RWDO 5HTXLUHG 0LQLPXP 6HPHVWHU

,7±*HQHUDOLVW & &*

&HUWLILFDWH 3URJUDP

&RXUVH + 6HPHV
3HU :HH +RXU
&OD /DE &UHG

),567 6(0(67(5)DOO
&,6 ,QWURGXFWLRQ WR
&,6 ,QWUR WR 3URJ /R
&7, 1HWZRUN 6HF)RXQ
'0(,QWURR'LJLWDO 0HGL _ _ _

),)7+ 6(0(67(5 6SULQJ
/6* $GYDQFHG ,VVXHV /(
63$ (OHPHQWDU\ 6SDQLV
+XPDQLWLHV)LQH $
6RFLDO %HKDYLRUDO 6
7HFKQLFDO (OHFWLY

6,;7+ 6(0(67(5 6XPPHU
:%/ :RUN EDVHG /HDUQLQJ

7RWDO 5HTXLUHG 0LQLPXP 6HPHVWHU

7HFKQLFDO (OHFWLYH
%86 6PDOO %XVLQHVV 0DQDJH
')7 %DVLF &$'
*,6 ,QWURGXFWLRQ WR
+25 /DQGVFDSH 'HVLJQ ,
+25 1XUVH\ 3URGXFWLR

0$7 0DWK 0HDVXUHPHQW
KLJKHU ___ ___ ___

6(&21' 6(0(67(5 6SULQJ
75) ,QWURGXFWLRQ WR &RPSXWDW ,' _ _ _

7+,5' 6(0(67(5 6XPPHU
+25 /DQGVFDSH &RQVWU _ _ _

0$7	0DWK 0HDVXUHPHQW KLJKHU	___	___	___

6RFLDO %HKDYLRUDO

),)7+ 6(0(67(5 6SULQJ
(1* :ULWLQJ 5HVHDUFK I
(1* 3URI 5HVHDUFK 5H
0/7 3URIHVVLRQDO ,VVXHV

0(' 0HGLFDO 7HUPLQRO
1DWXUDO 6FLHQFH (
0$7 4XDQWLWDWLYH /L' ___ ___ ___

6(&21' 6(0(67(5 6SULQJ
(1* :ULWLQJ 5HVHDUFK
(1* 3URI 5HVHDUFK 5H
267 7H[W (QWU\ )RUPDV
0(' r D€‚T„ 2ëAfŸq9H)•

0HGLFDO 2IILFH $ 3 W W 6 H U Q F H V

$VVRFLDWH LQ $SSOLHG 6FLHQFH 'HJUH

&RXUVH + 6HPHV
3HU :HH +RXU
&OD /DE &UHG

),567 6(0(67(5)DOO
$&$1"Ð0

ILUH VDIHW\ KRXVHKROG HQYLURQPHQW DQG
UHVRXUFHV DQG VHUYLFHV DQG HPSOR\PHQW V

8SRQ FRPSOHWLRQ WKH VWXGHQW PD\ EH HOLJ
RWKHU VHOHFWHG 1XUVH $LGH UHJLVWULHV DV
VWXG\

1XUVH $LGH &

&HUWLILFDWH 3URJUDP

&RXUVH +RXUV 6HPHV
:HHN +RXU
&OD /DE &OLQ

1XUVLQJ $

$VVRFLDWH LQ $SSOLHG 6FLHQFH 'HJUHH 3

&RXUVH +RXUV 6HPHV
+RXU
&OD /DE &OLQ &UHG

),567 6(0(67(5)DOO
%,2 $QDWRP\ DQG 3K
(1*

&RXUVH ZRUN LQFOXGHV FRPSXWHU DSSOLFDWL
DQDO\VLV DQG FRRUGLQDWLRQ RI RIILFH WDVN\
DQG RWKHU WRSLFV GHSHQGLQJ RQ WKH LQVWUXFWRU

*UDGXDWHV VKRXOG TXDOLI\ IRU HPSOR\PHQW
SRVLWLRQV LQ EXVLQHVV JRYHUQPHQW DQG

),)7+ 6(0(67(5 6SULQJ
267 3URIHVVLRQDO'HYH
%86 3HRSOH 6NLOOV
267 2IILFH $GPLQ &DSVW
7HFKQLFDO (OHFWLY
7HFKQLFDO (OHFWLY
7HFKQLFDYOH(OHFW

7RWDO 5HTXLUHG 0LQLPXP 6HPHVWHU

7HFKQLFDO (OHFWLYHV
$&& 3UIQ RI 0DQDJHULD(
$&& 3D\UROO $FFRXQWLQ
%$) 3UIQFLSOHV RI %DQ
%86 %XVLQHVV /DZ ,
%86 %XVLQHVV 0DWK
%86 +XPDQ 5HVRXUFH 0D
%86 %XVLQHVV)LQDQFH
%86 2UJ %HKDYLRU LQ %
%86 %XVLQHVV &RPPXQL
267 2IILFH 3XEOLFDWLRQ

2IILFH $GPLQ±&XUULFXOXP5HTXLUHPHQWV

$ &

$VVRFLDWH LQ $SSOLHG 6FLHQFH 'HJUHH 3

&RXUVH + 6HPHV
3HU :HH +RXU
&OD /DE &UHG

),567 6(0(67(5)DOO
$&$ 6XFFHVV 6WXG\ 6N
$&& &ROOHJH $FFRXQWL
$&& 3UIQ RILDQ6HF

6(&21' 6(0(67(5 6SULQJ
(1* :ULWLQJ 5HVHDUFK
(1* 3URI 5HVHDUFK 5H
267 7H[W (QWU\ )RUPDW
267 2IILFH (GLWLQJ
267 5HFRUGV 0DQDJHPH
6RFLDO %HKDYLRUD _ _ _

7+,5' 6(0(67(5 6XPPHU
267 :RUG 3URFHVVLQJ
267 2IILFH $SSOLFDWLR
&,6 ,QWURGXFWLRQ WR _ _ _

)2857+ 6(0(67(5)DOO
$&& ,QWUR WR 'DWDEDVH 6\VWHP
%86 3HUVRQDO)LQDQFH
267 /HJDO 7HUPLQRORJ\
267 /HJDO 2IILFH 3URFHG
267 $GY :RUG 3URFHVVL
267 (PHUJLQJ 7HFKQRORJ _ _ _

),567 6(0(67(5)DOO
$&$ 6XFFHVV 6WXG\ 6N
$&&

2IILFH $GPLQLVWUDWLYH 2IILFHU $

$&&
%$)
3D\UROO $FFRXQWL(

2SKWKDOPLF 0HGLFDO 3HUVRQQHO

'LSORPDJUDPRR

&RXUVH +RX 6HPHV
:HHN +RXU
&OD /DE &OLQ &UHG

),567 6(0(67(5 6XPPHU
&20 ,QWURGXFWLRQ WR 2SKWKDOPLF
&20 ,QWUR WR ,QWHUSH
&20 3XEOLF 6SHDNLQJ
(1* :ULWLQJ DQG ,QT

KRVSLWDOV FOLQLFV SK\VLFLDQV¶ RIILFHV DJHQFLHV DQG LQGXVWU\

%HFDXVH WKH XVH RI FRPSXWHUV LQ RXU QHZ RQOLQH GRFXPHQWV ZLOO EH GHG WR SURYLGH WKH VWDWH RI WKH DUW WHFKQLTXHV

7KH 5DGLRK\ SURJUDP LW KDV FFUHGLWHG E\ -RLQW 5HYLHZ &RPPLWWHH RQ (GXFDWLRQ
1 :DNHU 'ULYH 6XLWH
&KLFDJR ,/
3KRQH)D[
(0DLO#MUF HIEWZ JMUF HUW RU

5DGLRJUDSK\ $

$VVRFLDWH LQ $SSOLHG 6FLHQFH 'HJUH

&RXUVH +RX 6HPHV
:HHN +RU
&OD /DE &OLQ &UHG

),567 6(0(67(5)DOO
$&$ 6XFFHVV 6WXG\ 6N
%,2 $QDWRP\ 3K\VLRO
0$7 4XDQWLWDWLYH /LWHU
5$' 5DG ,QWUR 3DWLH
5$' 5$' 3URFHGXUHV ,
5$' 5$' &OLQLFDO (G , _ _ _ _

6(&21' 6(0(67(5 6SULQJ
%,2 $QDWRP\ 3K\VLRO
5$' 5$' 3URFHGXUHV ,,
5$' ,PDJH 3URGXFWLRQ
5$' 5$' &OLQLFDO (G ,, _ _ __ _

7+,5' 6(0(67(5 6XPPHU
(1* :ULWLQJ DQG ,QTXL
5$' ,PDJH 3URGXFWLRQ
5$' 5DGLDWLRQ 6DIHW\
5$' 5$' &OLQLFDO (G ,,, _ _ _ _

)2857+ 6(0(67(5)DOO
(1*

*UDGXDWHV RI DFFUHGLWHG SURJUDPV HYDO E
H[DPLQDWLRQV IURP WKH 1DWLRQDO %RDUG RI
PD\ DOVR WDNH WKH SRGLHWULF FHUWLILFDWLRQ *U
HPSOR\HG LQ KRVSLWDOV FOLQLFV QXUVLQJ K
FDUH

%HFDXVH WKH XVH RI FRPSXWHUV LV LQWHJUDO
: HEHQKDQFHG WR SURYLGH VWXGHQWV WKH

7KH 5HVSLUDWRU\ 7KHUDSLVW SURJUDP DFFU
&RPPLVVLRQ RQ $FFUHGLWDWLRQ IRU 5HVS
+DUZRRG 5RDG
%HGIRUG 7H[DV

5HVSLUDWRU\ 7KHUDS\ $

$VVRFLDWH LQ $SSOLHG 6FLHQFH 'HJUH

&RXUVH +RXU 6HPHV
:HHN +RU

6$1'+,//6 &20081,7<

685 3HULRGLFDO 6FLHQWLVW
36< 62& (OHFWLYH _ _ _ _

6(&21' 6(0(67(5 6SULQJ
%,2 $QDWRP\ DQG 3K\VLRORJ\
LI %,2 WDNHQ LQ
%,2 0LFURELRORJ\
%,2 *HQHUDO 0LFURELO
685 6XUJLFDO 3URFHG
685 6X&OLQLFDO 3UDF _ _ _ _

7KH 1RUWK &DUROLQD %RDUG RI 0DVVDJH DQG %R
OLQHVH WR SUDFWLFH PDVVDJH DQG ERG\ZRUN WK
FULPLQDO UHFRUG RU WKHUH LV RWKHU HYLGHQF
JRRG PRUDO FKDUDFWHU

%HFDXVH WKH XVH RI FRPSXWHUV LV LQWHJUDO W
GHOLYHUDQFH RQ OLQH RU RWKHU

7KHUDSHXWLF 0DVVDJH $

$VVRFLDWH LQ $SSOLHG 6FLHQFH 'HJUHH 3

&RXUVH +RXUV 6HPHV
+RXU
&OD /DE &OLQ &UHG

),567 6(0(67(5)DOO
$&$ 6XFFHVV 6WXG\
%,2 %DVLF &RQFHSWV 3K\VLR

+XPDQLWLHV)LQH _ _ _ _

7RWDO 5HTXLUHG 0LQLPXP 6HPHVWHU +R: _

7KHUDSHXWLF 0DVVDJH '

'LSORPD 3URJUDP

		&RXUVH +RXUV &OD /DE &OLQ	6HPHV +RU &UHG
),567 6(0(67(5)DOO			
$&$	6XFFHVV 6WXG\		
%,2	%DVLF $QDWRP3K\VLRO		
%,2	$QDWRP3K\VLRO		
0('	6XUYH\ RI 0HGLQ(		
07+	)XQGDPHQWDOV R		
36<	*HQHUDO 3V\FKRO	_ _ _	_
6(&21' 6(0(67(5 6SULQJ			
%,2	$QDWRP3K\VLRO		
	LI %,2 ZDV WDNH		
(1*	:ULWLQJ DQG ,QT:		
07+	7KHUDSHXWLF $SSOI	_ _ _	__
7+,5' 6(0(67(5 6XPPHU			
%,2	3DWKRSK\VLRORJ'		
07+	(WKLFV RI 0DVVD:		
07+	7KHUDSHXWLF 0DVVI	_ _ _	_
7RWDO 5HTXLUHG 0LQLPXP 6HPHV			__

*(1(5$/ '(*5((352*5$0

6DQG\D &RPPXQLW\ &RQVHUYDWLRQ DVVRFLDWLRQ
$VVRFLDWH LQ *HQHUDO (GXFDWLRQ
1XUVLQJ 7KHRU\ IRU VWXGHQWV LQ
\HDU DVVRFLDWH GHJUHH QXUVLQJ
RFFXSDWLRQDO LQWHUHVWV

$VVRFLDWH LQ *HQHUDO

5HOLJLRQ

6RFLDO %HKDYLRUDO 6FLHQFHV
6HOHFWHG DSSURDFKHV IURP WKH DSSURDFKHV IRU VWXG\LQJ UHOLJLRXV H
IRORZLQJ DUHDV
$QWKURSRORJ\
(FRQRPLFV
*HRJUDSK\ &dŽ™o • C&Hà +Â –ð € U V @CM° •JñU Ur – »EF

%LRORJ\ %,2
6HOHFW WKH TXHQFH IURP DVSHUR RU JHQHUDO HGX
FRXUVHV
&KHPLVWU\ &+0
&KHPLVWU\ &RQG $

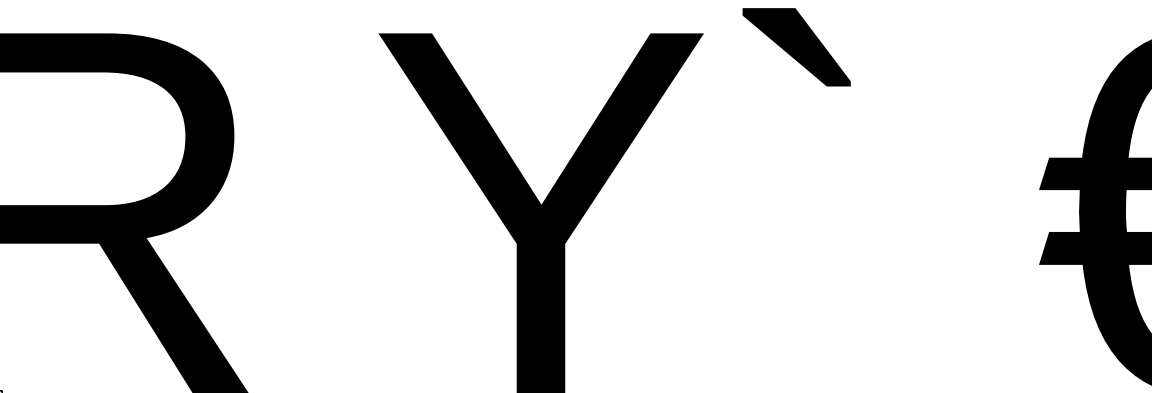
0DWKHPDWLFV
7DNH RQH WKH IROORZLQJ DSSURYHG JHQHUDO H
0DWKHPDWLFV 0$7
6HOHFW WKH IROORZLQJ DSSURYHG JHQHUDO HGXFDWLR
0DWKHPDWLFV 0$7

2WKHU UHTXLUHG +RXUV
2WKHU UHTXLUHG KRXUV LQFOXGH DGGLWLR
SURIHVVLRQDO FRXUVHV
$&$ 6+&
6HOHFW RQH RWKHU XUVH HDUWK VFLHQFH RU
6RFLDO %HKDYLRUDO 6FLHQFH
(FRQRPLFV (&2

&2//(*(352*5$06)25 6&+22/ 678'(176

&DUHHU DQG &RSSRUWXQLWLHV RXWORRN PDQXIDFWXUHG PHDQV IRU V
FRPSOHWLRQ RI FROOHJH WUDQVIHU FUHGLWV F
JUDGXDWLRQ IURP KLJK VFKRRO &RXUVHUHXQGHU
RIIHUHG WR KLJK VFKRRO VWXGHQWV ZLWK QR FKI

(OLJLEOH KLJK VFKRRO VWXGHQWV PD\ HDUQ



&2//(*(352*5$06)25 +,*+ 6&+22/ 678'(

+XPDQLWLHV$UWV &RPPXQLFDWLRQ 6+&
5HTXLUHG &RPPXQLFDWLRQ FRXUVH
&20 3XEOLF 6SHDNLQJ 6+&
6HOHFW RQH RXUVHV IURP WKH IROORZLQJ GLVFLSOLQHV
$57 $UW $SSUHFLDWLRQ 6+&
$57 $UW +LVWRU\ 6XUYH\ , 6+&
$57 $UW +LVWRU\ 6XUYH\ ,
&20 ,QWUR WR ,QWHUSHUVRQDO &RP 6+&
'5$ 7KHDWUH $SSUHFLDWLRQ 6+&

L2Đ

2WKHU 5HTXLUHG *HQHUDO (GXFDWLRQ 6+&
7KH IROORZLQJ FRXUVH LV UHTXLUHG
62& 6RFLDO 'LYHUVLW\ 6+&

27+(5 5(48,5(' +2856

(GXFDWLRQ 6+&
7KH IROORZLQJ FRXUVHV DUH UHTXLUHG
('8 7HDFKLQJ DQG /HDUQLQJ IRU $OO 6+&
('8)RXQGDWLRQV RI (GXFDWLRQ 6+&

$FDGHPLF 7UDQVLWLRQ 6+&
7KH IROORZLQJ FRXUVH LV UHTXLUHG
$&$ &ROOHJH 7UDQVIHU 6XFFHVV 6+&

727$/ 6(0(67(5 +2856 &5('6+& ,1 3$7+:$<

&DUHHU &ROOHJH 3URPLVH &ROOHJH 7
/HDGLQJ WR WKH $VVRFLDWH 'HJUHH 1X

7KH &DUHHU DQG &ROOHJH 3URPLVH 3DWKZD\ LV GHVLJ
VFKRRO MXQLRUV DQG VHQLRUV ZKR ZLVK WR EHJI
WKH $VVRFLDWH LQ 1XUVLQJ GHJUHH DQG D %DFF
3DWKZD\ LV EDVHG 8RQ L%RU RFNUWJEUHXHORDHVQLVR QEHSWZHH
WKH 8QLYHUVLW\ RI 1RUWK &DURLQD¶V 5HJLVWHU
1XUVLQJ 3URJUDPV DQG WKH 1RUWK &DURLQD &
'HJUHH 1XUVLQJ ZK3UFKJZDPVDSSURYHG E\ WKH 6W
&RPPXQLW\ &ROO1H&J%RDQG RMK*R8HUQRUV LQ)EU

$ VWXGHQW ZKR$VFRPSOHWHV QD$SSOLHG 6FLHQFH
ZKLFK LQFOXGHV FRXUVHV OLVWHG EHORZ ZLWK D
& RU EHWWHU DQG FRPSOHWHV WKH &DUHHU &ROOHJH

6HOHFW RQH (QJOLVK FRPSRVLWLRQ FRXUVH I
(1* :ULWLQJ 5HVHDUFK LQ WKH 'LVF 6+&
(1* 3URI 5HVHDUFK 5HSRUWLQJ 6+&

+XPDQLWLHV)LQH $UWV &RPPXQLFDWLR
6HOHFW RQH FRXUVH IURP WKH IROORZLQJ
$57 $UW $SSUHFLDWLRQ 6+&
$57 $UW +LVWRU\ 6XUYH\ , 6+&
$57 $UW +LVWRU\ 6XUYH\ ,, 6+&
+80 &ULWLFDO 7KLQNLQJ 6+&
086 0XVLF $SSUHFLDWLRQ 6+&
086 ,QWURGXFWLRQ WR -D]]
3+, 3KLORVRSKLFDO ,VVXHV 6+&
3+, ,QWURGXFWLRQ WR (WKLFV 6+&

6RFLDO %HKDYLRUDO 6FLHQFHV 6+&
7KH IROORZLQJ FRXUVHV DUH UHTXLUHG
36< *HQHUDO 3V\FKRORJ\ 6+&
36< 'HYHORSPHQWDO 3V\FK 6+&

1DWXUDO 6FLHQFHV 6+&
7KH IROORZLQJ FRXUVHV DUH UHTXLUHG
%,2 $QDWRP\ DQG 3K\VLRORJ\ , 6+&
%,2 $QDWRP\ DQG 3K\VLRORJ\ ,, 6+&

$FDGHPLF 7UDQ 6+&
7KH IROORZLQJ FRXUVH LV UHTXLUHG
$&$ &ROOHJH 7UDQVIHU 6XFFHVV 6+&

727$/ 6(0(67(5 +2856 &5(',7 ,1 38 7+:$<

&DUHHU &ROOHJH 3URPLVH &ROOHJ
/HDGLQJ WR WKH $VVRFLDWH LQ 6F

7KH &&3 &ROOHJH 7UDQVIHU GHVLJQHG IRU KLJK VFKRRO MXQLRUV DQG VHQ
WKH $VVRFLDWH LQ 6FLHQFH GHJUHH DQG D ED
WHFKQLFDO PDMRU 6WXGHQWV PXVW FRPSOHW
LQ DOO RI DV SULRU WR HQUROOLQJ LQ DGGLWLRQ
RSWLRQV ZLWKLQ WKH SDWKZD\

*(1(5$/ ('8&$7,21 6+&

$FDGHPLF 7UDQVLWLRQ 6+&
7KH IRLOORZLQJ FRXUVH LV UHTXLUHG
$&$ &ROOHJH 7UDQVIHU 6XFFHVV 6+&

727$/ 6(0(67(5 +2856 &5(',7 63$&7+:<

&DUHHU &ROOHJH 3URPLVH &ROOHJH /HDGLQJ WR WKH $VVRFLDWH LQ 6FLHQFH 3 7

7KH &&3 &ROOHJH 7UDQVIHU 3DWKZD\ /HDGLQJ 7HDFKHU 3UHSDUDWLRQ LV GHVLJQHG IRU KLJK ZLVK WR EHJLQ VWXG\ WRZDUG WKH $VVRFLDWH GHJUHH DQG FDODXUHDWH WKH PLQLPXP FRXUVH UHTXLUHPHQWV LQ DOO

WRZDUG WKH $VVRFLDWH LQ (QJLQHHULQJ GHJU
67(0 RU WHFKQLFDO PDWWHUV SXUVXLQJ WKH PLQL
UHTXLUHPHQWV LQ DOO DUHDV SULRU WR HQUR
DUH OLVWHG DV RSWLRQV ZLWKLQ WKH SDWKZD

*(1(5$/ ('8&$7,21 6+&
7KH JHQHUDO HGXFDWLRQ UHTXLUHPHQW LQFO
IURP WKH 8QLYHUVDO *HQHUDO(GXFDWLRQ
8*(7&RI WKH &RPSUHKHQVLYH $UWLFXODWLRQ

(QJOLVK &RPSRVLWLRQ 6+&
7KH IROORZLQJ WZR (QJOLVK &RPSRVLWLRQ FR
(1* :ULWLQJ DQG ,QTXLU\ 6+&
(1* :ULWLQJ,QTXLU\ LQ WKH 'LVF 6+&

+XPDQLWLHV)LQH $UWV &RPPXQLFDWLRQ 6+&
6HOHFW RQH FRXUVHV IURP WKH IROORZLQJ
$57 $UW $SSUHFLDWLRQ 6+&
$57 $UW +LVWRU\ 6XUYH\ , 6+&
$57 $UW +LVWRU\ 6XUYH\ ,, 6+&
&20 3XEOLF 6SHDS4T€@

6$1'+$$

VWXG\ WRZDUG WKH $QQRXQFHPHQW LQ D) LEUXDU\ F$QDGDX H
LQ 0XVLF

*(1(5$/ ('8&$7,21 6+&
7KH JHQHUDO HGXFDWLRQ UHTXLUHPHQW LQFOXG
IURP WKH 8QLYHUVDO *HQHUDO (GXFDWLRQ 7
8*(7& RI WKH &RPSUHKHQVLYH $UWLFXODWLRQ $

(QJOLVK &RPSRVLWLRQ 6+&
7KH IROORZLQJ WZR (QJOLVK &RPSRVLWLRQ FRXU
(1* :ULWLQJ DQG ,QTXLU\ 6+&
(1* :ULWLQJ 5HVHDUFK LQ WKH 'LVF 6+&

&RPPXQLFDWLRQV DQG +XPDQLWLHV)LQH $UWV
6HOHFW WZR RXUVHV IURP WKH IROORZLQJ GLVFLSOLQHV
&RPPXQLFDWLRQ
&20 ,QWUR ,QWHUSHUVRQDO &RP 6+&
&20 3XEOLF 6SHDNLQJ 6+&
+XPDQLWLHV)LQH $UWV
$57 $UW $SSUHFLDWLRQ 6+&
$57 $UW +LVWRU\ 6XUYH\ , 6+&
$57 $UW +LVWRU\ 6XUYH\ ,,&'Y @`

0$7

*(1(5$/ ('8&$7,21 6+&

1DWXUDO 6FLHQFHV 6+&
6HOHFW 6+& IURP WKH IROORZLQJ FRXUVH V
$67 'HVFULSWLYH $VWURQRP\ $ 6+&
'HVFULSWLYH $VWURQRP\ /DE 6+&
%,2 3ULQFLSOHV RI %LRORJ\ 6+&
%,2 *HQHUDO %LRORJ\ , 6+&
&+0 *HQHUDO &KHPLVWU\ ,
*(/ ,QWURGXFWRU\ *HRORJ\ 6+&
3+< &RQFHSWXDO 3K\VLFV 6+&
&RQFHSWXDO 3K\VLFV /DE 6+&

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$FDGHPLF 7UDQVLWLRQ 6+&
7KH IROORZLQJ FRXUVH LV UHTXLUHG
$&$ &ROOHJH 7UDQVIHU 6XFFHVV 6+&

7KHDWUH&
7ZR FRXUVHV DUH UHTXLUHG FKRRVH RQH WU
$FWLQJ 7UDFN
'5$ $FWLQJ , 6+&
'5$ 3OD\ 3URGXFWLRQ , 6+&
7HFKQLFDO 7UDFN
'5$ 6WDJHFUDIW , 6+&
'5$ 3OD\ 3URGXFWLRQ , 6+&

727$/ 6(0(67(5 +2856 &5(',7 6+& :,1<3$7+

&DUHHU 7HFKQLFDO 3DWKZ

6WXGHQWV PD\ HDUQ FROOHJH FUHGLWV WRZDU
LQ D WHFKQLFDO FDUHHU ZKLOH VWLOO SXUVXLQJ WKHLU
FDUHHU DUHDV &RXUVHV PD\ EH RIIHUHG RQ W
VFKRRO FDPSXVHV RU RQOLQH 1RW DOO FRXU
VFKRROV $ GHVFULSWLRQ RI WKH FXUULFXOX
VSHFLILF SURJUDP LQ WKH $SSOLHG6FLHQFH S

$FFRXQWLQJ DQG%RRNNHHSLQJ &+6

&RXUVH 6HPHV
3HU :HH +RXU
&RG /DE &UHG

$&$ 6XFFHVVIXO 6NLOOV
$&& 3ULQ RI)LQDQFLDO
$&& 3ULQ RI 0DQDJHULDO(
$&& 3D\UROO $FFRXQWLQ(
$&& ,QWUR WR&RVW $FFRXQWLQ
$&& 3UDFWLFHV LQ %RRNN

7RWDO 5HTXLUHG 0LQLPXP 6HPHVWHU

$FFRXQWLQJ DQG ILQDQFH $QDO\WLFV &

&RXUVH ⊣ 6HPHV
3HU :HH +RXU
&OD /DE &UHG

$&$ 6XFFHVVIXO 6NLOOV
%$6 ,QWUR WR $QDO\WLF

$XWRPRWLYH 6\VWHPV7HFKQRORJ\ DQG

&+6

			&RXUVH +RXUV 3HU :HHN &UHGLW
$&$		6XFFHVV 6WXG\ 6N	
$&&		3ULQ RI)LQDQFLDO	
$&&		,QWUR WR $FFHVV 6SUH	
$80		0DQDJLQJ $XWRPRWI	
%86		3ULQFLSOHV RI 0DQI	
%86		+XPDQ 5HVRXUFH 0D	
7RWDO 5HTXLUHG 0LQLPXP 6HPHVWHU			

$XWRPRWLYH 6\VWHPV7HFKQRORJ\

			&RXUVH +RXUV 3HU :HHN &UHGLW
$&$		6XFFHVV 6WXG\ 6N	
$87		6XVSHQVLRQ 6WHH	
$87	$	6XVSHQVLRQ 6WHH	
$87		%UDNH 6\VWHPV	
$87	$	%UDNH 6\VWHPV /DE	
$87		(QJLQH 3HUIRUPDQF	

$(5	$LU 1DYLJDWLRQ
$(5	$YLDWLRQ 0HWHRUR
$(5	$YLDWLRQ /DZV DQG
$(5	3ULYDWH 3LORW)OW
$(5	,QVWUXPHQW)OLJKW
$(5	)OLJKW '\QDPLFV
7RWDO 5HTXLUHG 0LQLPXP 6HPHVWHU	

%DNLQJ DQG 3DVWU\ $UWV & +6

&RXUVH ÷ 6HPHV
3HU :HH +RXU

(*5 ,QWUR WR (QJLQHHU _ _ _
7RWDO 5HTXLUHG 0LQLPXP 6HPHVWHU _

&ROOLVLRQ 5HSDLU DQG 5HVWRUDWLRQ 7HFKQLTXHV
)DEULFDWLRQ & +

		&RXUVH +	6HPHV
		3HU :HH	+RXU
		&OD /DE	&UHG
$&$	6XFFHVV 6WXG\ 6NI		
$8%	3DLQWLQJ 5HILQLV		
$8%	6SHFLDO)LQLVKHV		
$8&	$XWR &XVWRP)DEUI		
$8&	&XVWRP)LEHUJODVV		

&ROOLVLRQ 5HSDLU DQG 5HWHQWLRQ DQG
5HSDLU & +

			&RXUVH + 3HU :HH &OD	6HPHV +RXU /DE &UHG
$&$		6XFFHVV 6WXG\ 6N		
$8%		6WUXFWXUDO 'DPDJH		
$8%		6WUXFWXUDO 'DPDJH ,,		
$87		6XVSHQVLRQ 6WHH		
$87	$	6XVSHQVLRQ 6WHH		
751		%DVLF :HOGLQJ IRU	_	_ _
7RWDO 5HTXLUHG 0LQLPXP 6HPHVWHU				

&(7±

&8/

),3 %XLOGLQJ &RQVWUX

%,2 1XWULWLRQ

,7±*DPLQJ DQG6DWLVIDFWLRQ +

&RXUVH + 6HPHV
3HU :HH +RXU
&OD /DE &UHG

$&$ 6XFFHVVIXO\ 6NLOOV
&,6 Unit

&2//(*(352*5$06)25 +,*+ 6&+22/ 678'(

267 'LDJQRVWLF &RGLQJ
7RWDO 5HTXLUHG 0LQLPXP 6HPHVWHU

0HGLFDO 2IILFH $GPLQLVWUDWLRQ DQG
& +6

&RXUVH 6HPHV
3HU :HH +RXU
&OD /DE &UHG

$&$ 6XFFHVVIXO 6NLOOV
0(' 0HGLFDO 7HUPLQRORJ

UHTXLUHPHQWV6DVXSHUYLVRUVHDUV ROG RQ WK
FOD1VW DOVDEHXUVHUHG DKWVEKRRRIVWKH KLJ

+RNH &RXQW\ +LJK 6FKRRO

$%% 5RERWLFV $75

7KLVXUHVH SUHSDUHV VWXGHQWV IRU D FDUHHU DV
ZLOO OHDUQ DERXW URERW RSHUDWLRQV SURJUD
ODEV SHUIRUPLQJ HQJLQHHULQJ RQ DQ $%% 5RERW 6
WKH VDPH VRIWZDUH\VWHPV LQ LQGXVWULDO VHWWLQJV
VRIWZDUH 5RERW6WXGLR 8SRQ VXFFHVVIXO FRP
$%% 5RERWLFV FUHGHQWLDO

&RQWLQXLQJ(GXFDWLRQ &UHGLWV
7RWDO +RXUV

&HUWLILHG 0HGLFDO $VVLVWDQW

6WXGHQWV PD\ HDUQ D &HUWLILHG 0HGLFDO $GP
FUHGHQWLDO IURPKWWXHHDUW$VRQDFLDWLRQV 1+$ P
HOLJLEOH WR HQWHU WKH ZRUNIRUFH DV D &0$$

&RQWLQXLQJ(GXFDWLRQ &UHGLWV
7RWDO +RXUV

(OHFWULFDO /HYHO , (/&

7KLV FRXUVH LV WDXJKW E\ 1DWLRQDO &HQWHU
5HVHDUFK 1&&(5 FHDUWLILHGHQWUDQFH6XFFH
FRPSOHWLRQ TXDOLILHVVWXGHQWV&&(5&RUH6NLOOV
(OHFWULFDO&LUFXLWDFWLRQ DQG LQFOXVLRQ RQ W
(OHFWULFLDQV

&RQWLQXLQJ (GXFDWLRQ 8QLWV

&RQWLQXLQJ (GXFDWLRQ 8QLWV
7RWDO +RXUV

(OHFWURFDUGLRJUDP 7HFKQLFLDQ

6WXGHQWV ZLOO OHDUQ WKH UHTXLUHG VNL
(OHFWURFDUGLRJUDP 7HFKQLFLDQ6RFL*HWZLWK
3KOHERWRP\ 7HFKQLFLDQV 7RSLFV LQFOXGH F
FDUGLDF F\FOH (.* VWULS DQDO\VLV OHDG .

&RQWLQXLQJ (GXFDWLRQ 8QLWV
7RWDO +RXUV

)LUHILJKWHU $FDGHP\ ),3

7KLV FRXUVH LV GHVLJQHG IRU SUHSDUDWLRQ
EORFN RI ILUH UHVFXH
)LUH DQG 5HVFXH &RPPLVVLRQ DV SDUW RI W
0DWHULDOV 2SHUDWLRQ6
FRXUVHV SURYLGH VWXGHQWV ZLWK FUHGLW W
DQG\ EH DSSOLHG IRU FRXUVH FUHGLWV WRZDU
'HJUHH LQ)LUH 3URWHFWLRQ 7HFKQRORJ\

6WXGHQWV HQUROOHG LQ WKH)LUHILJKWHU $FI
RU ROGHU E\ WKH ILUVW GD\ RI FODVV

&RQWLQXLQJ (GXFDWLRQ 8QLWV
7RWDO +RXUV

+HDWLQJ 9HQWLODWLRQ DQG $LU &

+9$& &RUH 6NLOOV $+5

7KLV FRXUVH LV WDXJKW &
5HVHDUFK WUDLQHU 6XFFHVVIXO FRPSOHWLRQ
WKHLU 1&&(5 &RUH &UHGHQWLDO IURP WKH 1D
(GXFDWLRQ DQG 5HVHDUFK 1&&(5 7KLV FRXU
/HYHO

&RQWLQXLQJ (GXFDWLRQ 8QLWV
7RWDO +RXUV

+9$& /HYHO $+5

5RSOL ¡ &%LVH F RXUVH (2i HQ (2i €

SOXPELQJ VDIHW\ WROV RI WKH SOXPELQJ WU

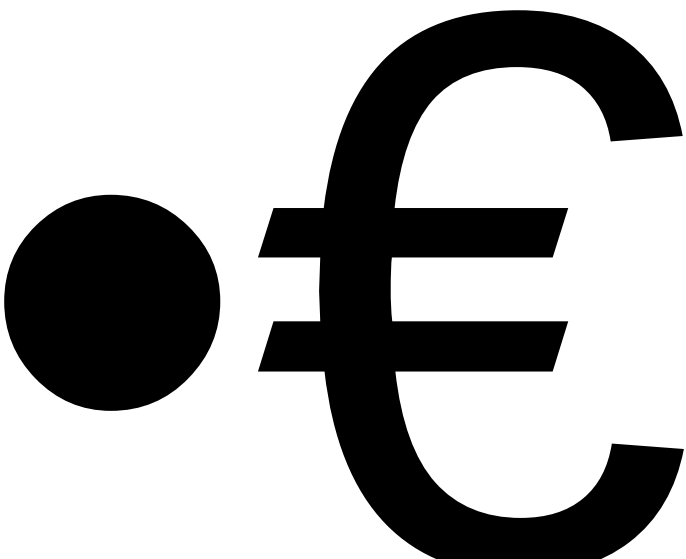
6WXGHQWKRVWXFFHVVIXOO\ FRPSOHWH WKH &37
FUHGHQWLDOV RQ HQWHUSULVH LQWHJUDWHG OHDUQLQJ FU
FRXUVHV HDUQLQJ DQ ,QGXVWULDO 6\VWHPV 7
FUHGLWV WRZDUG GLSORPD &HUWLILFDWH RI KQRZ
SURJUDP

&RQWLQXLQJ (GXFDWLRQ 8QLWV
7RWDO +RXUV

1&&(5(OHFWULFDO /HYHO , (/&

$YDLODEOH WR 3LQHFUHVW 8QLRQ 3LQHV DQ
VWXGHQWV

7KLV FRXUVH LV DFFUHGLWHG E\ 1DWLRQDO &HQWHU IRU &R
5HVHDUFK (FHUWLILFDWH [Â –ñ•S9y• µP X E O ñ 2dŽ QP



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3KDUPDF\ 7HFKQLFLDQ 3+0

$YDLODEOH WR 3LQHFUHVW 8QLRQ 3LQHV D
VWXGHQWV

)HHV

7KH&1/HJLVODWXUH HVWDEOLVKHV DQQXDO VXSSRUWLQJ IR
FODVVHV)HHV YDU\ DFFRUGLQJ WR GLVWULFW DQG SU
&RROHJH DQG 8QLYHUVLW\ 5HGLQHVV &RPPXQLW\ &ROOHJH
TXDOLI\ DQG PRVW VPDOO EXVLQHVV 'HYHORSPHQW
5HJLVWUDWLRQ IHHV DUH GXH
&ODVVHV GHVLJQHG IRU WKH
UHJLVWUDWLRQ IHHV DUH DGYHUWLVHG LQ WKH
WHFKQRORJLV FKDUJHG IRU VRPH FODVVHV

$ IXOO UHIXQG FDQ EH PDGH LI WKH FODVV LV FD
VWXGHQW UHTXHVWV WKH UHIXQG EHIRUH WKH FO
RI WKH UHJLVWUDWLRQ IHH FDQ EH
SRLQW

&RQWLQXLQJ (GXFDWLRQ VWXGHQWV ZLWK DQ\ RXWVWDQ

6WXGHQW 5HFRUGV

,Q DFFRUGDQFH ZLWK WKH 6WXGHQW LQIRUPDWLRQ DQG 3ULYDF\ $F
)(53$ VWXGHQW UHFRUGV RDUH JHQHUDOO\ FRQILGHQWLDO DQG
6WXGHQW LQIRUPDWLRQ UHTXHVWHG E\ WKH &
FRQVLVWV RI VRFLDO VHFXULW\ QXPEHU QDPH
ELUWKGDWH RU QHVLGHQFH HPDLO DGGUHVV JHQGHU

:25.)25&(&217,18,1* ('8&$7,21 :&(352*5$06&$5((5 &5(',7

$GYDQFHG 0DQXIDFWXULQJ

7KH $GYDQFHG 0DQXIDFWXULQJ 3URJUDP SURYLGHV W
WR OHDUQ QHZ MRE VNLOOV LQ WKH FRQVWUXFWL
1DWLRQDO &HQWHU IRU &RQVWUXFWLRQ (GXFDV
FHUWLILFDWLRQ SURJUDPV DQG LQZHOWEDQLQDOQGQGK
0DQXIDFWXULQJ 6NLOOV 6WDQGDUGV &RXQFLO 06
7HFKQLFLDQ &37 FHUWLILFDWLRQ SURJUDP $GG
SURJUDPV DUH SURYLGHG RQ WKH SXUWDPDEH
PHFKDWURQLFV $%% 5RERWDFV DQG &1& PDFKLQL
7UDLQLQJ LV SURYLGHG DW ERWK WKH

XDO @ E• H F g2 ' •9CÀ@ D @ð0P PE• dŽ0D @ð0PP@G

6XSSRUWHG 6SHFLDOL]HG OLIHVDYLQJ SURJUDPV DUH
RQ VLWH IRU EXVLQHVV DQG LQGXVWU\

/DZ (QIRUFHPHQW 7UDLQLQJ

7KH &ROOHJH SURYLGHV WUDLQLQJ SURJUDPV LQ SUR
HQIRUFHPHQW DQG FRUUHFWLRQV SHUVRQQHO
DQG GXWLHV QHFHVVDU\ WR HQKDQFH MRE SH
FRQWLQXHG FHUWLILFDWLRQ LQ WKHVH ILHOGV
DUH RIIHUHG WR UHVSRQG WR D UDSLGO\ FKDQ
QHHGV RI WKH FRPPXQLW\ 7KHVH FODVVHV HTX
WKH LQIRUPDWLRQ DQG VNLOOV QHFHVVDU\ WR
LQ ERWK WUDGLWLRQDO DQG

&ROOHJH DQG &DUHHU 5HDGL

7KH &HQWHU IRU &HQWHU IRU &DUHHU 6HUYLFHV &
&DUHHU 5HDGLQHVV 3URJUDPV 7KHVH %ULGJH
HGXFDWLRQDO RSSRUWXQLWLHV DW QR FRVW W
DFDGHPLF VNLOOV DVVHVVPHQWV HYDOXDWLRQ VRFLDO
DFFRUGDQFH ZLWK HVWDEOLVKHG 2SSRUW
WXGHQWV KDYH WKH RSWLRQ WR HQUROO LQ D
D OLWHUDF\ SURJUDP VR WKH\ PD\ (DUQ
&&5 OLWHUDF\ SURJUDPV DUH ¶ XGHQWLVTXHQWHG DWRQ
&ODVVHV DYDLODEOH DGXOW HGXFDWLRQ KRXUV DW VH
ORFDWLRQV LQ 0RRUHDVZHOO RNHF RQGXFWHG
SURJUDP DUHDV DUH GHVFULEHG EHORZ

$GXOW %DVLF (GXFDWLRQ $%(

$GXOW %DVLF (GXFDWLRQ SURYLGHV %(
RSSRUWXQLWLHV RO
H[SHULHQFH ILUVW WKLQJ LQ WKH PRUQLQJ 6WXG
E\ FRPSOHWLQJ VXFK WDVNV DV UHDGLQJ D QH
KRPHZRUN ZULWLQJ D OHWWHU FDOFXODWLQ
FRPSOHWLRQ RI HLJKW JUDGH OHYHOV WZR \HDUV
6FKRRO (QJLYDOHQF\ +6(SURJUDP WR SXUVXH

+LJK 6FKRRO (QTXLYDOHQF\ +6(

7KH +LJK 6FKRRO (TXLYDOHQF\ SURJUDP WR
SURYLGHV QRQOHGJH DQG VNLOOV QHHGHG WR
VFKRRO HTXLYDOHQF\ WHVWLQJ 6WXG
*(' WHVWV RU ZLWKLQ 6XFFHVVIXOO\ FRPSOHWLQJ
WKH VDPH +LJK 6FKRRO (TXLYDOHQF\ 'LSORPD
%RDUG RI &RPPXQLW\ &ROOHJHV

&855,&8/80&2856('(6&5,37,216

+RZ WR 5HDG WKH &RXUVH 'HVF

(DFKRXUVHVFULSWLRQKEHKHQWHU SUHGLFDWH QXPEHU WKDW LQGLFDWH WKH FVHä4µHU *(

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DFDGHPLF SHWLWLRQ FRXUVH VXEVWLWXWLRQ FU
FRXUVH UHTXLVLWHV ZDLYHU RU FUHGLW IRU H[S

%63(1* DQG 3$7HUHTXLVLWHV

%63(1* DQG 3$7HUHTXLVLWHV
7R HQUROO LQ&WKPFRXUVHVPLQVW DOVRFUHF IRU RU SODFH6RX WDRQIGWKHXVHV LQ &ROXPQ RWKHU FDQGLGDWHV OLVWHG LQ WKH ´3

%63(1* DQG 3$7HUHTXLVLWHV	
7R HQUROO LQ&WK0PRXU\RVLQW DOVRFUHF IRU RU SODW6RX WDRIGWKHU FRXUVHV OLVWHG LQ WKH´3	
3+<	0$7
3+<	0$7
32/	(1* RU %63
36<	(1* RU %63
62&	(1* RU %63
659	0$7 %63 0$7 RU 0$7 LV D FRUHTXLVLWH
75)	0$7 RU
75)	(1* RU 0$7 RU
75)	(1* RU
:%/ &-	(1* RU %63
:%/ 75)	(1*
:%/ /6*	0$7 0$7 0$7 0$7 RU 0$7
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&2856('(6&5,37,216 &2856(',6&,3/,1(35(),;

$&$$FDGHPLF 5HODWHG

x 0RVW6W6 GHJUHHV NLQJ VWXGHQWV DW&$UH3TXLUHG W
VHH WKH LQGLYLGXDO SURJUDP FXUULFXOXP RXWOLQHV IRU
*Y$H4mVHFWžƒbWVHEWLRQWHGWWDHQWDHQWHFDIRVRUJUDPV RI

VWXGHQWV VKRXOG EH DEOH WR DQDO\]H GDWD PD
IRUPV DQG SUHSDUH DFFRXQWLQJ HQWULHV XVLQJ

$&& ,QWURGXFWLRQ WR)LQDQFLDO 6SUHDGVKHHWV)666
3UHUHTXLVLWHV &RXUVH RXWFRPHV
&RUHTXLVLWH VWXGHQWV
7KLV FRXUVH SURYLGHV D ZRUNLQJ NQRZOHGJH RI F
DFFRXQWLQJ 7RSLFV LQFOXGH SUHSDUDWLRQ RI EDVLF
EHJLQQHU OHYHO PDFURV JUDSKV DQG VWDWLVWLFDO
SUREOHPV 8SRQ FRPSOHWLRQ VWXGHQWV VKRXOG
FRPSOHWH PDQ\ RI WKH WDVNV)$UHTXLUHG LQ DFFRX

$&& $FFRXQWLQJ)LQDQFLDO $SSO)$ C¼"1Ê@&$ Â)ù dDC

$(5 $HURVSDFH DQG)OLJKW 7UDLQ

$(5 $LU 1DYLJDWLRQ)
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH FRYHUV WKH EDVLF HOHPHQWV RI DLU QD
GHDG UHFNRQLQJ D SORWWHU FRPSXWHU DQG D
SLORWDJH GHDG UHFNRQLQJ UDGLR QDYLJDWLRQ /25$
WKH XVH RI)$$ SXEOLFDWLRQV 8SRQ FRPSOHWLRQ V
DHURQDXWLFDO FKDUWV DQG 63 SULQFLSOHV

$(5 $YLDWLRQ 0HWHRURORJ\ )
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRP`k@`€ FR

$(5 &RPPHUFLDO)OLJKW 7KHRU\ )
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH FRYHUV DGYDQFHG WRSLFV LQ SURSXOVLRQ WKURXJK GH
UHTXLUHG IRU WKH)$$ FHUWLILFDWLRQ H[DPLQDWLRQV DQG WKH
SULQFLSOHV RI DLUFUDIW SHUIRUPDQFH DQG FRQWUROODELOLW\
SHUIRUPDQFH GHVFHQW DQG ODQGLQJ SHUIRUPDQFH D
8SRQ FRPSOHWLRQ VWXGHQWV VKRXOG EH SUHSDUHG WR WDNH
FRPSHWHQFH LQ WKH PDWKHPDWLFDO UHTXLUHG IRU WK
H[DPLQDWLRQV

$(5)OLJKW&RPPHUFLDO 3LORW)6
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH SURYLGHV WKH NQRZOHGJH DQG VNLOOV IRU D)HGHUDO
$GPLQLVWUDWLRQ FRPPHUFLDO SLORW FHUWLILFDWH
GYDQFHG SUHFLVLRQ PDQHXYHUV RIIDDLQFUXLVH PDQHXYHUV
HPHUJHQF\ SURFHGXUHV RSHUDWLRQV PDQFHPSDQHG DLUFUDF
DQG IXHO SODQQLQJ 8SRQ FRPSOHWLRQ VWXGHQWV
FRPSHWHQFH LQ WKH DUHDV RI WKH IOLJKW WHVW SU
FHUWLILFDWH$$,QVWUXFWLRQDO IOLJKW KRXUV DUH D
SDVVHQJHUVKLS ZLWK WKH ORFDO IOLJKW VFKRROV

$(5)OLJKW 'RQDPLFV 6
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH EDVLF DQG DGYDQFHG SULQFLSOH
IORZ 7RSLFV LQFOXGH DLUIORZ FKDUDFWHULVWLFV DQG
FKDUDFWHULVWLFV VWDELOLW\ DQG FRQWURO VXEVR
0DFK QXPEHUV J ORDGLQJ DHURHODVWLFLW\ 8SRQ FRPSOHWLRQ VWXGHQ
H[SODLQ WKH HOHPHQWV RI DSSOLFDEOH UHJXODWLRQV
UHODWH GLUHFWO\ WR WKH SURFHGXUHV RI IOLJKW RSHUD

$(5 $LU 7UDIILF &RQWURO)
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH SURYLGHV D GHWDLOHG DQDO\VLV RI DOO
LV SODFHG GHSDUWXUH DQG DUULYDO \VLV RI DLU WUDIILF FRQWURO
WUDIILF HQYLURQPHQW EDVHG RQ WKH SLORW V DQG FR
VWXGHQWV VKRXOG EH DEOH WR RSHUDWH VDIHO\ DQG H
)$$ DLU WUDIILF &RQWURO

$(5 $LU 7UDQVSRUW 3LORW $1'
3UHUHTXLVLWHV $(5
&RUHTXLVLWHV
7KLV FRXUVH SURYLGHV DGYDQFHG VWXG\ IRU WKH SUR
GHSWK VWXG\ RI WKH DQG EDODQFH KLJK DOWLWXGH ZH
DQG SHUIRUPDQFH FRQVLGHUDWLRQV RI ODUJH DLUFUD
DEOH WR FDOFXODWH ZHLJKW DQG EDODQFH RI ODUJH D
DSSO\ KLJK DOWLWXGH FLHDQZHDWKHU

$(5 $YLRQLFV $1'
3UHUHTXLVLWH
&RUHTXLVLWH
7KLV FRXUVH FRYHUV VWDQGDUG QDYLJDWLRQDO DQ
(PSKDVLV LV SODFHG RQ DYLDWLRQ UDGLR VSHFV
WUDQVSRQGHU UDGDU IOLJKW GLUHFWRUV DQG
VKRXOG EH DEOH WR XWLOL]H 925 $') ,/6 *36 IOLJ
LQ WKH IOLJKW HQYLURQPHQW

$(5)OLJKW 6DIHW\ 6
3UHUHTXLVLWH
&RUHTXLVLWH
7KLV FRXUVH FRYHUV WKH EDVLF SURFHGXUHV DQG
DFFLGHQW LQYHVWLJDWLRQ DQG UHSRUWLQJ 7RS
IHGHUDO UHJXODWLRQV SHUWLQHQWDWWRDDLDQWLRQ
FDVHV DQG WKHLU FDXVHV 8SRQ FRPSOHWLRQ VW

$(5 $LUSRUW 0DQDJHPHQW $1'
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH H[DPLQHV WKH PDMRU IXQFWLRQV
FRQFHSWV XQGHUO\LQJ DLUSRUW SODQQLQJ DQ
IRUHFDVWLQJ YROXPHV DQG DLUSRUW VL]H DQG G
ORFDWLRQ UHTXLUHPHQWV XQGHUVWDQGLQJ FRQILJXUDWLRQ
RWKHU FRQVLGHUDWLRQV 8SRQ FRPSOHWLRQ VW
EDVLF DLUSRUW PDQDJHPHQW VNLOOV LQFOXGI
VRFLRHFRQRPLF HIIHFW RI DLUSRUWV RQ WKH FRP

$(5 ,QVWUXFWRU 3LORW)OW 7KHRU\ 6
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH FRYHUV IOLJKW LQVWUXFWLRQ DQG
WR ZRUN HIIHFWLYHO\ DV D IOLJKW LQVWUXFWRU
LQVWUXFWLRQ OHVV

17QWKURSRORJ\

$17 *HQHUDO $QWKURSRORJ\ $1'

$5&$UFKLWHFWXUH

$5& ,QWURGXFWLRQ $UFK 7HFKQRORJ\ )
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH LQWURGXFHV EDVLF DUFKLWHFWXUDO G
DUFKLWHFWXUDO DQG HQJLQHHULQJ WHFKQLTXHV XVHG LQ GHVLJQLQJ DQG EXLOGLQJ FRPSXWHU V\VWHPV
D[RQRPHWULF DQG REOLTXH GUDZLQJ WHFKQLTXHV XV
VHFWLRQV DQG GHWDLOV UHSURJUDSKLF WHFKQLTX
FRPSOHWLRQ VWXGHQWV VKRXOG EH DEOH DGEUDZLQJ VSHFLILFDWLRQV
PLQLPXP DUFKLWHFWXUDO VWDQGDUGV 6WXGHQWV ZLO
68

$5& &RQVWUXFWLRQ 7HFKQRORJ\ )
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH LQWURGXFHV FRQVWUXFWLRQ 7RPSLWHV

V\VWHPV IRU UHUV EHFRPH LQFUHDVLQJO\ GLIILFXOW DQG FRVWO FRGH UHTXLUHPHQWV 8SRQ FRPSOHWLRQ VWXGHQ GUDZLQJV IRU SOXPELQJ PHFKDQLFDO DQG HOHF FDOFXODWLRQV

57UW

$57 $UW $SSUHFLDWLRQ)666
3UHUHTXLVLWHV 1*WHVRU %63
&RUHTXLVLWHV RQH
7KLV FRXUVH LQWURGXFHV WKH RULJLQV DQG KLVW SODFHWKH RUHODWLRQVKLS RI GHVLJQ SULQFLSOHV W OLPLWHG WR VFXOSWXUH SDLQWLQJ DQG DUFKLWH DEOH WR LGHQWLI\ DQG DQDO\]H D YDULHW\ RI

$57 7KUHH-PHQVLRQDO 'HVLJQ 6
3UHUHTXLVLWHV
&RXUVH 'HVFULSWLRQ
7KLV FRXUVH LQWURGXFHV EDVLF FRQFHSWV RI WKUHH-GLPHQVLRQDO GHVLJQ
(PSKDVLV LV SODFHG RQ WKH VWUXFWXUDO HOHPHQWV
WR PDVV DQG VSDFH 8SRQ FRPSOHWLRQ VWXGHQWV
GLPHQVLRQDO GHVLJQ WKHRULHV DQG WHH KDV EHHQ DSSUR

FUHDWH DUWZRUN XVLQJ $ G7LKJLLWDOR[PHVDQKDV EHHQ DS
WKH IROORZLQJ UHTXLUHPHQW V

- x 3UHPDMRU DQG RU (OHFWLYH FRXUVH IRU $ $ I
- x +XPDQLWLHV (QJOLVK RU 6SDQLVK IRU $ $ 6 DQG $ *

$57 3RUWIROLR DQG 5pVXPp 6
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH FRYHUV UHVXPH ZULWLQJ LQWHUYL
SUHVHQWDWLRQ RI DQ DUW SRUWIROLR DQG SURIHVVLRQDO (PSOR
RULJLQDO DUWZRUN WKH SUHSDUDWLRQ RI D SKRW
ZULWLQJ DQG LQWHUYLHZ WHFKQLTXHV 8SRQ FRP
SKRWRJUDSK DQG SUHVHQW D GLJLWDO 3RUWIROLR
7KLV FRXUVH KDV EHHQ DSSURYHG WR VDWLVI\ WKH

- x 3UHPDMRU DQG RU (OHFWLYH FRXUVH IRU $ $ I

$57 3ULQWPDNLQJ , 6
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH LQWURGXFHV VWXGHQWV WR WKH EDVLF
SURFHVVHV (PSKDVLV LV SODFHG RQ EDVLF DSSOL
VRXUFH DQG GHYHORSPHQW 8SRQ FRPSOHWLRQ VW
LPDJHV XWLOL]LQJ D YDULHW\ RI WHFKQLTXHV DQG
VDWLVI\ WKH IROORZLQJ UHTXLUHPHQW V

- x 3UHPDMRU DQG RU (OHFWLYH FRXUVH IRU $ $ I

$57 3ULQWPDNLQJ ,, FHHTÂXÓr-UÐH`PH PÀÀ

&855,&8/80 &2856('(6&5,37,216

FROOLVLRQ HVWLPDWLQJ PDQXDOV 8SRQ FRPSOHWL
LQWHUSUHW D GDF6DJH UHSRUW

$8& $XWRPRWLYH &XVWRPL]LQJ

$8& $XWR &XVWRP)DEULFDWLRQ)
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH FRYHUV PRGLILFDWLRQV RI H[LVWLQJ Y
RI QHZ YHKLFOH FRPSRQHQWV (PSKDVL]LQJ WHFKQLTXHV
RQ IDFWRU\ RULJLQDO SDUWV DV ZHOO DV IDEULFDV
SURFHVVHV DQG FXVWRPL]LQJ WHFKQLTXHV 8SRQ F
PRGLI\ H[LVWLQJ IDFWRU\ FRPSRQHQWV
DXWR FXVWRPL]LQJ WHFKQLTXHV

$8& &XVWRP)LEHUJODVV 6NLOOV)
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH ZLOO SURYLGH
(PSKDVLV ZLOO
DJHQWV ILEHUJODVV ERG\ SDUWV UHPRYDO UHSODF
XVLQJ ILEHUJODVV PDWHULDOV 8SRQ FRPSOHWLRQ
RI ILEHUJODVV DQG
ILEHUJODVV FRPSRQHQWV

$80 $XWRPRWLYH 0DQDJHPHQW

$80 0DQDJLQJ $XWRPRWLYH 2 6
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH ZLOO FRYHU WKH SULQFLSOHV DQG
DXWRPRWLYH IDFLOLW\ (PSKDVLV LV SODFHG RQ
WHFKQLFDO VHUYLFH WUDLQLQJ
EDVHG VKRS PDQDJHPHQW V\VWHPV 8SRQ FRPSOH
GHPRQVWUDWH SURFHVV

$87 (QJLQH 5HSDLU)
3UHUHTXLVLWHV
&RUHTXLVLWHV

%$6 $SSO $QDO\WLFDO 3URJUDP 6
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH FRYHUV DSSOLFDWLRQV RI VWDWLVWLFDO UHSRUWLQJ 7RSLFV LQFOXGH GDWD SUHSDUDWLRQ GDWD DQDO\VLV LQFOXGLQJ OLQHDU DQG ORJLVWLF UHJUHVVLRQ DQG FRPSOHWLRQ VWXGHQWV VKRXOG EH DEOH WR SURGXFH VPDOO EXVLQHVV VWDWLVWLFDO

%,2%LRORJ\

,QLWLDO FXOWXUH PHWKRGV IRU PLFURRUJDQLVPV DQG FHOOV 6WDLQLQJ SURFHGXUHV DQG PLFURVFRSLF H[DPLQDWLRQ RI PLFURRUJDQLVPV &XOWXUH PHGLD SUHSDUDWLRQ DQG VWHULOL]DWLRQ 3K\VLRORJLFDO DQG ELRFKHPLFDO FKDUDFWHULVWLFV RI PLFURRUJDQLVPV [Â$QW WHV$2&•p ROV6 VKRXDQDH

%,2 $QWURP\ DQG 3K\VLORJ\ ,,)6 66
3UHUHTXLVLWHV L, VHVPLQLPXP JUDGH &
A P `07KL&RUHTXLVLWHÀ WKH DQPÀuG0O#V VHÂñ Âñw `BEQ5`FWWKHVBHQYE
7KLV FRXUVH LV WKRXUHRQHTXLQDFWZRKLFK SURYLGHV
VWXG\ RI WKH DQDW QÂñ X"ÐPà DQDW V@ÐPà DQuGxÐ0

p 0 à U` € B W&Hà.0 $P ÀGx PV @Ó €$$ÂwT~. Ð p K L V

%3$%DNLQJ DQG 3DVWU\ $UWV

%3$ 3HWLW)RXUV 3DVWULHV)
3UHUHTXLVLWHV&8/
&RUHTXLVLWHV1RQH
7KLV FRXUVH LQWURGXFHV WKH EDVLF SULQFLSOHV RI SDVWU\ DQG SDVWULHV
RI SHWLW IRXUV DQG LQGLYLGXDO GHVVHUW SDVWU\ SHWLW IRXUV DQG SDVWULHV XWLO
FRQWHPSRUDU\ SHWLW IRXUV DQG SDVWULHV XWLOL]LQJ VWXGHQWV VKRXOG EH DEOH WR
FRPSOHWLRQ VWXGHQWV VKRXOG EH DEOH WR SURGXFH D YDULHW\ RI SDVWULHV LQFOXGLQJ
EXIIHW DQG VSHFLDO)$HYHQW VHWWLQJV

%3$ (XURSHDQ &DNHV DQG 7RUWHV 66
3UHUHTXLVLWHV&8/
&RUHTXLVLWHV1RQH
7KLV FRXUVH LQWURGXFHV WKH SURGXFWLRQ RI D Z
VXLWDEOH WR WKH XQLTXH UHTXLUHPHQWV RI GLDEHWLF DQG JOXWHQ IUHH FOLHQWV
FODVVLF FDNHV XVLQJ WKH PHWKRGV RI PL[LQJ ILOO
VWXGHQWV VKRXOG EH DEOH WR SUHSDUH DQG VHUYH D YDULHW\ RI
WRUWHV DQG VXFK DV %DYDULDQ 'RERV DQG 6DFKHU

%3$ &RQIHFWLRQ $UWLVWU\ 6
3UHUHTXLVLWHV &8/ (1* RU %63
&RUHTXLVLWHV
7KLV FRXUVH LQWURGXFHV WKH SULQFLSOHV DQG WHF
FRQIHFWLRQHU\ FDQG\ 7RSLFV LQFOXGH QRXJDW PDU]

&855,&8/80 &2856('(6&5,37,216

%86 3HUVRQDO)LQDQFH)
3UHUHTXLVLWH*WHVRU %63
&RUHTXLVLWHLRQHV
7KLV FRXUVHVWXGHQWLYLGXDO DQG IDPLO\ ILQDQFL
SODFHG RQ EXLOGLQJ XVHIXO VNLOOV LQ EX\LQJ PDQ
DQG FRSLQJ ZLWK FXUUHQW HFRQRPLF FRQGLWLRQV 8
DEOH WR GHYHORSDSLUDWLRQDOLVWLRQ QQ QQ U[µ BEGÉõÄ$Tz

7KLV FRÂ¼Ï8FwXCRÀ0K-Ã8 6Ú, ¢¢ ¼!ÐÐPÐ¥ÐÐ)ÝHWÝÀ8 Tw•
LV &1" B9 Ì!Ÿ

VHGHVWUXFWLYH FRPPXQLFDWLRQRQDWWXHWLQYH DQ
FRPPXQLFDWLRQ SDWWHUQV

%86

%86 %XVLQHVV &RPPXQLFDWLRQ 6
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH GHVLJQHG WR GHYHORS VNLOOV LQ ZULW
(PSKDVLV LV SODFHG RQ EXVLQHVV UHSRUWV FRU
SUHVHQWDWLRQV 8SRQ FRPSOHWLRQ VWXGHQWV VKRX
LQ WKH ZRUN6SODFH

&(* &LYLO (QJLQHHULQJ DQG *HRPDV

&(* ,QWUR WR *,6 DQG *166 6
3UHUHE$E9 3UHUHÐ0 €E$BDS00P ``

&+0 *HQHUDO &KHPLVWU\ ,,)6 66
3UHUHTXLVLWHV PLQLPXP JUDGH &
&RUHTXLVLWHV
7KLV FRXUVH SURYLGHV D FRQWHPSRUDU\ RSHUDWLRQV
RI FKHPLVWU\ 7RSLFV LQFOXGH NLQHWLFV HTXLOL
EDVH WKHRU\ HOHFWURFKHPLVWU\ WKHUPRG\QDPL
FKHPLVWU\ DQG FRPSOH[LRQV 8SRQ FRPSOHWLRQ
DQ XQGHUVWDQGLQJ RI FKHPLFDO FRQFHSWV DV QH
DQG UHODWHG SURIHVVLRQDO ILHOGV 7KH ODER
GHWHUPLQDWLRQV WLWUDWLRQV JUDYLPHWULF DQG VW
7KLV FRXUVH KDV EHHQ DSSURYHG WR VDWLVI\ WKH

&,6 ,QIRUPDWLRQ 6\VWHPV

&,6 ,QWURGXFWLRQ WR &RPSXWHUV)6 66
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV F

&,9 5HLQIRUFHG &RQFUHWH 6
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH LQWURGXFHV WKH EDVLF HOHPHQWV F
LQFOXGH DQDO\VLV DQG GHVLJQ RI UHLQIRUFHG
UHWDLQLQJ ZDOOV 8SRQ FRPSOHWLRQ VWXGHQWV
FRPSRQHQWV RI D VWUXFWXUH XVLQJ UHLQIRUFHG
&RPSXWHU $LGHG 'UDIWLQJ DQG 'HVLJQ VRIWZDUH &

&-& &ULPLQDO -XVWLFH

$GPLVVLRQ WR WKH %/(7 SURJUDP &-&UHTXLUH
6WXGHQWV ZLWK FULPLQDO IRUHQVLFV &-& ZLWK WKH
DERXW FUHGLWV IRU VRPH &-& FRXUVH RIIHULQ
HQWU\

&-& %DVLF /DZ (QIRUFHPHQW %/(7)6 66
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH FRYHUV WKH EDVLF VNLOOV DQG
DV D ODZ HQIRUFHPHQW RIILFHU LQ 1RUWK &DUROL
1RUWK &DUROLQD $GPLQLVWUDWLRQ &RGH DV HVVHQ
8SRQ FRPSOHWLRQ WKH VWXGHQW VKRXOG EH DEOH
UHTXLUHG IRU WKH VWDWH FRPSUHKHQVLYH FHUWLILF
OHYHO FRXUVHV

&-& ,QWUR WR &ULPLQDO -XVWLFH)
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH LQWURGXFHV WKH FRQFHSWV
7RSLFa‰ XFHV WKC` @ ð\Hà KUVH$€VÀ)ó K

&-& -XYHQLOH -XVWLFH)6
3UHUHTXLVLWH RQH
&RUHTXLVLWH QRQH
7KLV FRXUVH FRYHUV WKH MXYHQLOH MXVWLFH V\VWHP

UHODWHG WRSLFV 8SRQ FRPSOHWLRQ VWXGHQWV
DQG LGHQWLI\ LQWHUSUHW DQG DSSO\ 6WXGHQW
VXFFHVVIXO&\-&FRPSOHWLRQ&DZ (QIRUFHPHQW&-&D\ UHF
68

&-& &RXUW 3URFHGXUH (YLGHQFH 6
3UHUHTXLVLWH1RQH
&RUHTXLVLWHV
7KLV FRXUVH FRYHUV MXGLFLDO VWUXFWXUH SURFH
NLQGV DQG GHJUHHV RI HYLGHQFH DQG WKH UXOHV
FRXUW 7RSLFV LQFOXGH FRQGXFW RI WULDOV UXOHV
VHL]XUH ODZV H[FOXVLRQDU\ DQG VWDWXWRU\ UXO
8SRQ FRPSOHWLRQ VWXGHQWV VKRXOG EH DEOH WR
WR HVWDEOLVK D ODZIXO DUUHVW DQG VHDUFK
HYLGHQWLDU\ VWDQGDUGV DQG DSSO\ WKHP
(QIRUFHPHQW PD\ UHFHLYH &5HGLW IRU &-&

&-& &RUUHFWLRQV)6
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH VXUYH\V WKH KLVWRULFDO DQG SKLORVRSKLHV FRPSRQ
DQG SUREOHPV RI WKH ILHOG RI FRUUHFWLRQV 7RS
RI WKH Up`0R V `0$C&H0RSGH 0@P`RSL W`0UP€ 0FKC Uu`0

&-& (WKLFV &RPPLWWHH 6HOHFW 6 66
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH FRYHUV HWKLFDO FRQVLGHUDWLRQV DQG
MXVWLFH RUJDQL]DWLRQV DQG SURIHVVLRQDOV 7RSLFV
YDOXHV DQG [XQGRUGLYHUVLW\ FLWL]HQ LQYROYHPHQW
DQG RWKHU UHODWHG WRSLFV 8SRQ FRPSOHWLRQ VW
FRQVLGHUDWLRQV PDWWHUV QW KSURFHVVLRQ LGHQWLILDEOH
VLWXDWLRQV

&-& ,QYHVWLJDWLYH 3UHQFLSOHV)6
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH LQWURGXFHV WKH WKHRULHV DQG IXQGD
7RSLFV LQFOXGH FULPH VFHQH LQFLGHQW SURFHVVLQ

&20 &RPPXQLFDWLRQ

&20 ,QWURGXFWLRQ WR &RPPXQLFDWLRQ)6 66
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH SURYLGHV DQ RYHUYLHZ RI WKH EDVLF FR
QHFHVVDU\ WR FRPPXQLFDWH LQ YDULRXV FRQWH[WV (
WKHRULHV DQG WHFKQLTXHV XVHG LQ LQWHUSHUVRQD
FRPPXQLFDWLRQ VLWXDWLRQV 8SRQ FRPSOHWLRQ VW
LQGXVWUDWH WKH IRUPV DQG SXUSRVHV RI KXPDQ FRPP
68 7KLV FRXUVH KDV EHHQ DSSURYHG WR VDWLVI\ WK
- &RPPXQLF*HQ(GVFRXUVH IRU $ $ DQG $ 6
- 2WKHU *HQ (G DQG 3UHPXDUHIRUHH(LYH +RXUV F
- &RPPXQLFDWLRQ FRXUVH IRU $ $ 6 DQG $ * (

&20 ,QWUR ,QWHUSHUVRQDO &RP)666
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH LQWURGXFHV WKH SUDFWLFHV DQG SULQF
ERWK G\GDLF DQQG JUHSXKDWLHWWL SODFHG RQ WKH FRPP
SHUFHSWLRQ **GLVW**HQQH VHSHHFK DSSUHKHQVLRQ
FRPPXQLFDWLRQ FRQIOLFW SRZHU DQG G\VIXQFWLR
8SRQ FRPSOHWLRQ VWXGHQWV WUDWHG1GWDUESHUWRQDO
VNLOOV DSSO\ EDVLF SULQFLSOHV RI JURXS GLVFXVVL
FRPPXQLFDWLRQ VHWWLQJV 7KLV FRXUVH KDV EHHQ DSSURYHG
IROORZLQJ UHTXLUHPHQW V
- 8*(7&FRXUVH IRQG $ 6
- &RPPXQLFDWLRQ FRXUVH IRU $ $ 6 DQG $ * (

&20 ,QWUR ,QWHUFXOWXUDO &RP)
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH LQWURGXFHV WHFKQLTXHV RI FXOWXUD
FKDUDFWHULVWLFV DQG GLIIHUHQFHV RQ FXOWXUDO GUHV
SODFHG RQ KRZ GLYHUVH EDFNJURXQGV LQIOXHQFH WKI
SHUFHSWLRQV DQG H[SHULHQFHV GH` G H[EGH U@XOWPP(

8SRQ FRPSOHWLRQ VWXGHQWV VKRXOG EH DEOH WR VD
VDORQ VHUY)L$FHV

&26 &RVPHWRORJ\,&RQFHSWV 66
3UHUHTXLVLWHV PLQLPXP JUDGH & DQG &26
&RUHTXLVLWHV
7KLV FRXUVH FRYHUV PRUH FRPSUHKHQVLYH FRVPHWRO
SURGXFW NQRZOHGJH VDORQ PDQDJHPHQW VDOHVPD
WHKUDS\ ZLJV WKHUPDO KDLU VW\OLQJ ODVK DQG EUR
DQG RWKHU UHODWHG WRSLFV 8SRQ FRPSOHWLRQ VV
FRPSHWHQWO\ DSSO\ WKHVH FRVPHWRORJ\ FRQFHSWV L

&26 6DO,R,Q 66
3UHUHTXLVLWHV PLQLPXP JUDGH & DQG &26
&RUHTXLVLWHV
7KLV FRXUVH SURYLGHV FRPSUHKHQVLYH H[SHULHQFH L
LV SODFHG RQ HYDOXDWLQJ FRPSHWHQFLHV PDQLFXULQJ VFDOS
KDLU FRORU GHVLJQ KDLUFXWWLQJ FKHPLFDO UHVW
WRSLFV 8SRQ FRPSOHWLRQ VWXGHQWV VKRXOG EH
GHPRQVWUDWH WKHVH)$VDORQ VHUYLFHV

&26 &RVPHWRORJ\ &RQFHSWV ,9)6
3UHUHTXLVLWHV PLQLPXP JUDGH & DQG &26
&RUHTXLVLWHV
7KLV FRXUVH FRYHUV DGYDQFHG FRVPHWRORJ\ FRQFHS
VWUXFWXUH DGYDQFHG FXWWLQJ DQG GHVLJQ DQG DQ
LQ SUHSDUDWLRQ IRU WKH OLFHQVLQJ H[DPLQDWLRQ 8SRQ FRPS
WR GHPRQVWUDWH DQ XQGHUVWDQGLQJ RI WKHVH FRV
FRPSOHWLRQ UHTXLUHPHQWV

&26 6DORQ ,9)6
3UHUHTXLVLWHV PLQLPXP&JUDGH &26
&RUHTXLVLWHV
7KLV FRXUVH SURYLGHV DGYDQFHG H[SHULHQFH LQ D \
SODFHG RQ HIILFLHQW DQG FRPSHWHQW GHOLYHU\ RI D
OLFHQVLQJ H[DPLQDWLRQ DQG WHFKQRORJ\ FRQFHSWV
GHPRQVWUDWH FRPSHWHQFH LQ SURJUDP UHTXLUHPH
&RVPHWRORJ\ /LFHQVLQJ ([DPLQDWLRQ
)$

&26 &RQWHPS +DLU &RORULQJ)6
3UHUHTXLVLWHV DQG&&26
&RUHTXLVLWHV
7KLV FRXUVH FRYHUV EDVLF FRORU FRQFHSWV KDLU
WHFKQLTXHV 7RSLFV LQFOXGH FRORU WKHRU\ WHUP
SURGXFW NQRZOHGJH DQG RWHKWLRQ
WR L`0p€p WT2`ÀH7p€¶ WV FROORp E 0KHOS @ RX@`RW` SO

&26 7ULFKRORJ\ &KHPLVWU\ $1'
3UHUHTXLVLWH
&RUHTXLVLWH
7KLV FRXUVHRLVKDLVWDXGG WKH LQWHUDFWLRQ RI DS
SODFHG RQ S+ DFWLRQV DQG WKH UHDFWLRQV DQG
DQG FRPSOHWLRQ RP Â÷KÂñYp R+ QV DQPPP À pP

DEOH WR GHVLJQ FRGH WHVW DQG6 3GKHLEVX JF FDXWU VDH EKHDJVLQ
EHHQ DSSURYHG WR VDWLVI\ WKH IROORZLQJ UHTXLUHP
x 3UHPDMRU DQG RU (O

&6& $GYDQFHG & 3URJUDPPLQJ)
3UHUHTXLVLWH &6&
&RUHTXLVLWHV QRQH
7KLV FRXUVH LV D &6&RQWLQXDWLRQ &RISURJUDPPLQJ
REMHFWLYH WR JLYH VWXGHQWV SUDFWLFDO SURJUDPPLQJ (PSKDVLV
SURJUDPPLQJ PHWKRGV LQFOXGLQJ FUHDWLQJ DQG
REMHFWV DQG WKH FODVV GHEXJJHU WRROV VXFK DV WKH FODVV GHEXJJH
DEOH WR GHVLJQ DQG EXLOG DQ REMHFW RULHQWHG SURJUDPPHU REMHFWV
HQYLURQPHQW

&6& 3URJUDPPLQJ &DSVWRQH 3URMHFW6
3UHUHTXLVLWHV &7, DQG &76
&RUHTXLVLWHV QRQH
7KLV FRXUVH SURYLGHV DQ RSSRUWXQLW\ WR GHPRQVWUDWH
IURP WKH GHVLJQ SKDVH WKURXJK LPSOHPHQWDWL
(PSKDVLV LV SODFHG RQ SURMHFW GHILQLWLRQ WH
8SRQ FRPSOHWLRQ VWXGHQWV VKRXOG EH DEOH W
SKDVH WKURXJK LPSOHPHQWDWLRQ

&67 &RQVWUXFWLRQ

&67 3ODQQLQJ (VWLPDWLQJ , 6
3UHUHTXLVLWHV &6&3 RU 0$7 RU 0$7
&RUHTXLVLWHV QRQH
7KLV FRXUVH FRYHUV WKH SURFHGXUHV LQYROYH
FRQVWUXFWLRQ EXLOGLQJ SURMHFW 7RSLFV LQFO
PDWHULDOV QHFHVVDU\ IRU D EXLOGLQJ SURMHFW
WR DFFXUDWHO\ HVWLPDWH WKH FRVW RI PDWHULDOV DQG HTXLSPHQW
FRQVWUXFWLRQ SURMHFW

&7, &RPSXWHU 7HFK ,QWHJUDWL

&7, :HE 3JP'E)RXQGDWLRQ)6
3UHUHTXLVLWHV QRQH
&RUHTXLVLWHV QRQH
7KLV FRXUVH FRYHUV WKH LQWURGXFWLRQ RI WKH W
SURJUDPPLQJ ODQJXDJH DQG VHUYLFHV RQ WKH ,QW
PDUNV ODQJXDJH ,QWHUQHW VHUYLFHV FUHDWLQJ Z
WUDQVIHU SURJUDPV DQG GDWDEDVH GHVLJQ DQG
FRPSOHWLRQ VWXGHQWV VKRXOG EH DEOH WR GHPR
GHSOR\ D ZHE SURJUDP RQ WKH ,QWHUQHW DQG FUHDWH D VLPSOH G

&7, 1HWZRUN 6HF)RXQGDWLRQ)6
3UHUHTXLVLWHV QRQH
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7KLV FRXUVH LQWURGXFHV VWXGHQWV WR WKH 1H
WHUPLQRORJ\ DQG FRQFHSWV RI ZLGH DUHD QHWZRUNV D
(PSKDVLV LV SODFHG RQ VHFXULQJ LQIRUPDWLRQ V
SROLFLHV 8SRQ FRPSOHWLRQ VWXGHQWV VKRXOG

DQG PDUNHWLQJ IRU XWLOLWLHV LQ SHUDWLRQ 8SRQ FR
EH DEOH WR DSSO\ EDVLF QXWULWLRQDO FRQFHSWV

&8/ 3XUFKDVLQJ)6
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&RUHTXLVLWHV LQHV
7KLV FRXUVH KDV EHHQ GHVLJQHG RSXUFRGVHUYLFH RSHUDWLRQV
WHVWV SURFXUHPHQW QHJRWLDWLQJ LQYHQWRU\
HWKLFV YHQGRU UHODWLRQVKLSV IRRG SURGXFW
8SRQ FRPSOHWLRQ VKRXOG EH DEOH WR DSSO\ HIIHF
EDVHG RQ WKH IHGH SURGXFW

&8/ 0HQX 'HVLJQ 66
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7RSLFV LQFOXGH OD\RXW PDUNHWLQJ FRQFHSW G

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&RUHTXLVLWHV &RQ/HV

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PHDVXUHPHQW WHUPLQRORJ\ DQG IRUPXOD FDOFXO
GHVVHUWV IUR]HQ GHVVHUWV FDNH DQG WRUWH
GHVVHUW SODWLQJ DQG SUHVHQWDWLRQ 8SRQ FR
GHPRQVWUDWH WKH SURFHVV RI SUHSDULQJ DQG GHVVHUWLQJ EXIIH

&8/)DUP7R7DEOH 6
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KRZ IRRGV DUH JURZQ SURFHVVHG DQG GLVWULEX
TXDOLW\ DQG VXVWDLQDELOLW\ 8SRQ FRPSOHWLRQ
XQGHUVWDQGLQJV WR HYDOXDWH VKLS DQG ,QWV LPDF

'%$ 'DWDEDVH 0DQDJHPHQW 7HFK

'%$ 'DWDEDVH &RQFHSWV)
3UHUHTXLVLWHV RQH
&RUHTXLVLWHV 1RQH
7KLV FRXUVH LQWURGXFHV GDWDEDVH GHVLJQ DQG F
LV SODFHG RQ GDWD GLFWLRQDULHV QRUPDOL]DWLR
RI VLPSOH‡HJOUPDOL] Dq0 LQWv

')7 'UDQJL

')7 %DVLF &$' $1'
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7KLV FRXUVH LQWURGXFHV VWXGHQWV WR WKH SULQFLSOHV RI WZDUH IRU VSHF
QRQGUDIWLQJ PDMRUV (PSKDVLV LV SODFHG RQ XQGHU
VWUXFWXUH DQG GUDIWLQJ VWDQGDUGV IRU VSHFLILF W
VKRXOG EH DEOH WR FUHDWH 6QG SORW EDVLF GUDZLQ

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LQFOXGH VNHWFKLQJ SKLORVRSKLFDO DQG

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YDULRXV DQLPDWLRQ VRIWZDUH SDFNDJHV 8SRQ FR
SURGXFH VLPSOH DQLPDWLRQV

'0($GY *UDSKLF 'HVLJQ 7RROV $1'
3UHUHTXLVLWHV
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7KLV FRXUVH SURYLGHV H[WHQVLYH WUDLQLQJ LQ WKH
HQYLURQPHQWV LV SODFHG RQ XQGHUVWDQGLQJ SU
DQG DSSO\LQJ WKHP HIIHFWLYHO\ LQ SURMHFWV 8S
GHVLJQ DQG SURGXFH D UDQJH RI FRPPHUFLDO WR
DQG SULQFLSOHV

'0(6\VWHPV 3URMHFWV 6
3UHUHTXLVLWHV'0(
&RUHTXLVLWHV
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IURP WKH GHVLJQ SURFHVV WKURXJK DSSOLFDWLRQ ZLWK PLQ
(PSKDVLV LV SODFHG RQ SURMHFW GHILQLWLRQ WH
8SRQ FRPSOHWLRQ VWXGHQWV VKRXOG EH DEOH W
GLJLWDO PHGLD)$SURMHFW

'5$ 'UDPDWKHDWUH

'5$ 7KHDWUH $SSUHFLDWLRQ $1'
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SODFHG RQ WKH DXGLHQFH V DSSUHFLDWLRQ RI WK
GHVLJQHU SURGXFHU DQG FULWLF 8SRQ FRPSOH
GHPRQVWUDWH D YRFDEXODU\ RI WHFKQLFDO WHUPV D
WKHDWUH DUW6WXGHQWV FRXUVH KDV EHHQ DSSURYHG W
UHTXLUHPHQW V

- 8*(7&FRXUVH IRU $ $ DQG $ 6
- +XPDQLWLHV)LQH $UWV *HQ (G FRXUVH IRU $

'5$ 9RLFH IRU 3HUIRUPDQFH $1'
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH SURYLGHV JXLGHG SUDFWLFH LQ WKH S
(PSKDVLV LV SODFHG RQ LPSURYLQJ VSHHFK LQ
SURQXQFLDWLRQ DQG RWKHU YRFDO YDULDEOHV 8S

'5$ 6WRU\WHOOLQJ $1'
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7RSLFV LQFOXGH WKH KLVWRU\ RI VWRU\WHOOLQJ LWV YDO
VWRU\WHOOHU DQG PHWKRGV RI FROOHFWLQJ YHUEDO
DEOH WR SUHVHQW DQG GLVFXVV FULWLFDOO\ VWRULH
ORUH 68 7KLV FRXUVH KDV EHHQ DSSURYHG WR VDWLVI\
x + ⊠ ⊡ ⊙ ⊚ ⊛ ⊜ ⊝ ⊞ ⊟ ⊠ ⊡ ⊢ ⊣ ⊤ ⊥ ⊦ ⊧ ⊨ ⊩ ⊪ ⊫ ⊬ ⊭ ⊮ ⊯ ⊰ ⊱ ⊲ ⊳ ⊴ ⊵ ⊶ ⊷ ⊸ ⊹ ⊺ ⊻ ⊼ ⊽ ⊾ ⊿ ⋀ ⋁ ⋂ ⋃ ⋄ ⋅ ⋆ ⋇ ⋈ ⋉ ⋊ ⋋ ⋌ ⋍ ⋎ ⋏ ⋐ ⋑ ⋒ ⋓ ⋔ ⋕ ⋖ ⋗ ⋘ ⋙ ⋚ ⋛ ⋜ ⋝ ⋞ ⋟ ⋠ ⋡ ⋢ ⋣ ⋤ ⋥ ⋦ ⋧ ⋨ ⋩ ⋪ ⋫ ⋬ ⋭ ⋮ ⋯ ⋰ ⋱ ⋲ ⋳ ⋴ ⋵ ⋶ ⋷ ⋸ ⋹ ⋺ ⋻ ⋼ ⋽ ⋾ ⋿

'5$ 6WDJHFUDIW ,)
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH LQWURGXFHV WKH WKHDWHU \ DFWLQJ HOD
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YRFDWLRQDO DQG DYRFDWLRQDO6WURKHV LQ WHFKQL

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(PSKDVLV LV SODFHG RQ WKH GHVLJQ DQG LPSOHPHQ
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URROHV LQ WHFKQLFDO WKHDWUH

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PDNHXS SXG

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KLVWRU\ DHVWKHWLFV DQG UHSUHVHQWDWLYH GUDP
FRPSOHWLRQ VWXGHQWV VKRXOG EH DEOH WR WUDFH V
VW\OHV DQG W\SHV RI62RUOG GUDPD

'5$ /LJKWLQJ IRU 7KHDWUH

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RUGHU WR HIILFLHQWO\ DFKLHYH7KHEVRQFRPXLFVHRKEMDHF
DSSURYHG WR VDWLVI\ WKH IROORZLQJ UHTXLUHPHQ

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- 6RF½DHKDYLRUDO 6FLHQFH *HQ (G FRXUVH IRU

(&2 3ULQ RI 0DFURHFRQRPLFV)6
3UHUHTXLV1LWHVRU %63 0$7 RU %63
&RUHTXLVLWHV
7KLV FRXUVH LQWURGXFHV HFRQRPLF WKHRU\ DQG PHWKRGV
SULFHV 7RSLFV LQFOXGH PDMRU VFKRROV RI HFRQ
GHPDQG HFRQRPLF PHDVXUHV IOXFWXDWLRQV D
VWDELOL]DWLRQ WHFKQLTXHV DQG WKHLU UROH LQ WKH
DEOH WR HYDOXDWH QDWLRQDO HFRQRPLF FRPSRQ
DFKLHYLQJ VRFLRHFRQRPLF JRDOV KDV EHHQ DSSU
WKH IROORZLQJ UHTXLUHPHQW V

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HYLGHQFH VWUDWHJLHV (PSKDVLV LV SODFHG RQ GH
EHQHILWV IRU HVWDEOLVKLQJ DQG VXSSRUWLQJ UHVS
IDPLOLHV SURJUDPV VFKRROV DQG FRPPXQLW\ DJHQ
1$(<& &RGH RI (WKLFDO &RQGXFW DQG WKH &RGH RI (WK
8SRQ FRPSOHWLRQ VWXGHQWV VKRXOG EH DEOH WR LG
VWUDWHJLHV EHWZHHQ GLYHUVH IDPLOLHV FKLOGUHQ ELUW
FRPPXQLWLHV DQG GHPRQVWUDWH D YDULHW\ RI FRPPX
XVH RI WHFKQRORJ\ WR VXSSRUW HYHU\ FKLOG

- 3UHPDMRU DQG RU (OHFWULFDO 6FRXUVH IRU $ $

('8 &KLOG 'HYHORSPHQW ,)
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH LQFOXGHV WKH WKHRULHV RI FKLOG GHYH
PLOHVWRQHV DQG IDFWRUV WKDW LQIOXHQFH GHYHO
DSSURSULDWH PRQWKV (PSKDVLV LV SODFHG RQ NQR
DVVHVVPHQW RI GHYHORSPHQWDO VHTXHQFHV LQ
HPRWLRQDO VRFLDO KHDOWK SK\VLFDO ODQJXDJH FR

UHODWLRQVKLS EHWZHHQ FKLOGUHQ YRSHLQW HPR
)$

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WHDFKLQJ SUDFWLFHV DQG UHVHDUFK LQ PDWHULDOV ZKOH
IRU (DUO\ /HDUQLQJ DQG 'HYHORSPHQW (PSKDVLV L
GULYHQ OHDUQLQJ H[SHULHQFHV LQ DUW PXVLF FU
H

GHPRQVWUDWH UHVSRQVLYH FXUULFXOXP SODQQLQJ
D YDULHW\ RI GHYHORSPHQWDOO\ DSSURSULDWH
IRXQGDWLRQ IRU KHDOWKK GRHYHXORSPHQWDO DQG OLIHZ
GLYHUVH FKLOGUHQ ELUWK WR PRQWKV

('8 6FKRRO 'HYHORS DQG 3URJUDPV)
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VFKRRO FKLOGUHQ (PSKDVLV LV SODFHG RQ SULQFL
SODQQLQJ DQG SROLWLYH JXLGDQFH WHFKQLTXH
FRPSOHWLRQ VWXGHQWV VKRXOG EH DEOH WR GLVF
OLQLJVWLFDOO\ DQG DELOLW\ GLYHUVH FKLOGUHQ DJ
GHYHORSPHQWDOO\ DSSURSULDWH SURJUDPV DQG D

('8 (DUO\ &KLOGKRRG $GPLQ , 66
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FKLOG FDUH DGPLQLVWUDWRUV 7RSLFV LQFOXGH SURJU
1& &KLOG &DUH /DZ DQG 5XOHV EXVLQHVV SODQQLQJ
DQG 1$(<& &RGH RI (WKLFDO &RQGXFW 6XSHUYLVLRQ
$GPLQLVWUDWLRQ 8SRQ FRPSOHWLRQ VWXGHQWV
GHYHORSPHQWDO\ DSSURSULDWH SURJUDP SKLORVR
UHJXODWLRQV DQDO\]H D EXVLQHVV SODQ DQG H[DPLQ
SURFHGXUHV

('8 (DUO\ &KLOGKRRG $GPLQ ,, 66
3UHUHTXLVLWHV ('8
&RUHTXLVLWHV

RWKHU WUHDWPHQW SURFHGXUHV SRQ FRPSOHWLRQ VWXGHQWV VKRXO
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FRPSXWDWLRQV XVLQJ D VHQLRU HQWLILF FDOFXODWRU

(*5 $,QWUR WR 7HFKQRORJ\ /DE)
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&RUHTXLVLWHV
7KLV FRXUVH SURYLGHV D ODERUDWRU\ H[SHULHQFH GHVLJQHG
GHYHORSLQJ VNLOOV LQ GLPHQVLRQDO DQDO\VLV PHDV
DQG FDOFXODWRU DSSOLFDWLRQV RQ [[DQG [ODERUDWRU\ H[SHULHQFHV WR
ODERUDWRU\ H[SHULHQFHV WR WKH F RQFHSWV SUHVHQ

(*5 (QJ DQG 'HVLJQ *UDSKLFV 6
3UHUHTXLVLWHV
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(PSKDVLV LV SODFHG XSRQ VHOHFWLQJ WKH DSSURSUL
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DSSOLFDWLRQV 8SRQ FRPSOHWLRQ VWXGHQWV VKRX
IHDWXUHG VLRQ QW DQG PHQGV WKRXJKW REMHFWV XVLQJ WKI
PHWKRGV)$ 7KLV FRXUVH KDV EHHQ DSSURYHG WR V
UHTXLUHPHQW V

- 3UHDMRU DQG RU (OHFWLYH FRXUVH IRU $ $ DQG

(*5 $SSO 6RIWZDUH IRU 7 $1'
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&RUHTXLVLWHV
7KLV FRXUVH LQWURGXFHV SHUVRQDO FRPSXWHU VRI
FXVWRPL]H WKH VRIWZDUH IRU WHFKQLFDO DSSOLFDWL
FRPPRQ RIILFH DSSOLFDWLRQV VXFK DV ZRUG SURFHVV
JUDSKLFV DQG LQWHUQHW DFFHVV 8SRQ FRPSOHWLRQ
FRPSHWHQF\ LQ XVLQJ DSSOLFDWLRQV VRIWZDUH WR
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(*5 ,QWUR WR (QJLQHHULQJ)
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&RUHTXLVLWHV
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SURFHVV ZRUNWHQ DQG RUDO FRPPXQLFDWLRQ LQWH
FRPSXWHU DSSOLFDWLRQV 8SRQ FRPSOHWLRQ VWXGH
HQJLQHHULQJ SURFHVV WKH HQJLQHHULQJ
WKHLU HGXFDWLRQDO 7KLV FRXUVH KDV EHHQ DSSURYHG
IROORZLQJ UHTXLUHPHQW V

- 3UHDMRU DQG RU (OHFWLYH FRXUVH IRU $ $ DQG
- 2WKHU 5HTXLUHG +RXUV FRXUVH IRU $ (

(*5 (QJLQHHULQJ 6WDWLFV $1'
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&RUHTXLVLWHV
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(/& 0RWRUV DQG &RQWUROV $1'
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LQFOXGH ODGGHU GLDJUDPV SLORW GHYLFHV DFWXDWRUV
FRQWURO GHYLFHV 8SRQ FRPSOHWLRQ VWXGHQWV VKR

(06(PHUJHQF\ 0HGLFDO 6FLHQFH

(06 (07)6
3UHUHTXLVLWHV
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DLUZD\ SDWLHQW DVVHVVPHQW PHGLFDO HPHUJHQ
RSHUDWLRQV 8SRQ FRPSOHWLRQ VWXGHQWV VKRX
DQG VNLOOV QHFHVVDU\ WR DVVHVV DQG PDQDJH
FHUWLILFDWLRQ

(06 'HIHQVH 7DFWLFV IRU (06 $1'
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[redacted]

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SDUDPHGLF FHUWLILFDWLRQ 7RSLFV LQFOXGH KLVWRU
ILHOG LPSUHVVLRQ FRPSUHKHQVLYH DVVHVVPHQW
GRFXPHQWDWLRQ VNLOOV 8SRQ FRPSOHWLRQ VWX
FRPPXQLFDWLRQ VNLOOV DQG UHFRUG DQG UHSRUW
rB7P PRTC&HpYP ¹7S ... LÐ R\'...`€^° WEASÐp€0 FRWL WEZWA•ñ#À A...`€

(06 &DUGLR,ORJ\ 66
3UHUHTXLVLWH(V16WHV (06 DQG (06
&RUHTXLVLWHV1RQH
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(06 (06 &OLQLFDO 3UDFWLFXP ,, 66
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&RUHTXLVLWHV1RQH
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SODFHG RQ LQFUHDVLQJ WKH SURILFLHQF\ RI VWX
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GHPRQVWUDWH FRQWLQXHG

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SODFHG RQ HQKDQFLQJ WKH VWXGHQWVV DEHOLWLHV DQ
8SRQ FRPSOHWLRQ VWXGHQWV VKRXOG EH DEOH W
DGYDQFHG P

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HPHUJHQFLHV DQG SKDUPDFRORJLFDO WKHUDSHXWL
DEOH WR UHFRJQLSHFLQGF WHHDWHQFHV

(06 (06 %ULGJLQJ &RXUVH $1'
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(06 (06 &DSVWRQH 6
3UHUHTXLVLWHV(06 (06
&RUHTXLVLWHV
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(PSKDVLV LV SODFHG RQ FULWLFDO WKLQNLQJ LQWH
DQG HIIHFWLYH VHHDXRUDWHGF HHRQUHQF\ VLWXDWLR
VWXGHQWV VKRXOG EH DEOH WR UHFRJQL]H DQG DS
UHODWHG HY6HQWV

(1*(QJOLVK

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QHFHVVDU\ WR EH VXFFHVVIXO(QJOLVK FRXUVHZRUN
EH DEOH WR EXLOG D VWURQJHU IRXQGDWLRQ IRU VX
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JHQUHV DQG IRUPDWV XVLQJ D UHFXUVLYH SURFHVV (
HIIHFWLYH XVH RI UKHWRULFDO VWUDWHJLHV WKHVLV
UHYLVLRQ 8SRQ FRPSOHWLRQ VWXGHQWV
GHYHORSHG HVVD\V XVLQJ VWDQGDUG
DSSURYHG WR VDWLVI\ WKH IROORZLQJ UHTXLUHPHQW
x 8*(7& FRXUVH IRU
x (QJOLVK &RPSRVLWLRQ *HQ (G FRXUVH IRU $ $ 6

(1* :ULWLQJ 5HVHDUFK LQ WKH 'LVF)6 66
3UHUHTXLVLWHV
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GRFXPHQWDWLRQ VW\OHV DQG ZULWLQJ VWUDWHJLHV

(1* &UHDWLYH :ULWLQJ ,, $1' 3UHUHTXLVLWHV (1*

- 8*(7& FRXUVH IRU $ $ 6
- +XPDQLWLHV)LQH $UWV *HQ (G FRXUVH IRU $ $ 6

(1* %ULWLVK /LWHUDWXUH ,, 6
3UHUHTXLVLWHV(1*
&RUHTXLVLWHV(1*

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ILUH UHVLVWLYH DVSHFWV RI FRQVWUXFWLRQ PDWHUL

+)6 *URXS ([HU ,QVWUXFWLRQ 6
3UHUHTXLVLWHV)LQH
&RUHTXLVLWHV 1RQH
7KLV FRXUVH LQWURGXFHV WKH FRQFHSWV DQG JXI
7RSLFV LQFOXGH SURJUDP GHVLJQV ZRUNLQJ ZLWK
WHDFKLQJ DQG PRQLWRULQJ SK\VLFDO DFWLYLW\ 8S
WR GHPRQVWUDWH EDVLF VNLOOV LQ LQVWUXFWLQJ
LQWHQVLW\1

+)6 3HUVRQDO 7UDLQLQJ 6
3UHUHTXLVLWHV +)6
&RUHTXLVLWHV 1RQH
7KLV FRXUVH LQWURGXFHV WKH VWXGHQW WR EDVLF
7RSLFV LQFOXGH WUDLQLQJ V\VWHPV PDUNHWLQJ
FRPSOHWLRQ VWXGHQWV VKRXOG EH DEOH WR GHP
FRPSHWHQFLHV)HH IDPH

+)6 ([HUFLVH 3URJUDPPLQJ)
3UHUHTXLVLWHV
&RUHTXLVLWHV 1RQH
7KLV FRXUVH SURYLGHV LQIRUPDWLRQ DERXW RUJDQ

+,6 +LVWRU\

+,6 :RUOG &LYLOL]DWLRQV , $1'
3UHUHTXLVLWHVRU %63
&RUHTXLVLWHVRQH
7KLV FRXUVH LQWURGXFHV [illegible] HUD 7RSLFV LQFOXGH (XUDVLDQ5RPDQFH&KULVWLDQ &KULVWLDQ ,VODPLF DQG %\]DQWLQH FXOWXUHV 8SRQ WR DQDO\]H VLJQLILFDQW [illegible] PRGHUQ ZRUOG FLY[illegible] IROORZLQJ UHTXLUHPHQW V

- 8*(7& FRXUVH IRU[illegible]
- 6RFLDO %HKDYLRUDO 6FLHQFH *HQ (G FRXUVH IR

+,6 :RUOG &LYLOL]DWLRQV ,, $1'
3UHUHTXLVLWHVRU %63
&RUHTXLVLWHVRQH
7KLV FRXUVH LQWURGXFHV ZRUOG KLVWRU\ IURP WKH H
LQFOXGH WKH FXOWXUHV RI $IULFD (XURSHRQ,QGLD &K

+,6 1RUWK &DUROLQD +LVWRU\ $1'
3UHUHTXLVLWHV *HVRU %63
&RUHTXLVLWHV
7KLV FRXUVH LV D VWXG\ RI OLWHUDU\ DQG SKLORVRSKLFDO WH[WV IURP $PHULFD V GLVFR
QDWLYH DQG LPPLJUDQW EDFNJURXQGV FROORQLDO DQ
SDUW\ SROLWLFV UHOLJLRXV WUDGLWLRQV PDQG DWKHUDQ V
HFRQRP\ 8SRQ FRPSOHWLRQ VWXGHQWV VKRXOG EH D
VRFLRHFRQRPLF DQG FXOWXUDO GHYHORSPHQWV 1
KDV EHHQ DSSURYHG WRXVDWHLQWKH IROORZLQJ UHT
x 3UHPDMRU DQG RU (OHFWLYH FRXUVH IRU $ $ DQG
x 6RFLDO %HKDYLRUDO 6FLHQFH *HQ (G FRXUVH IR

+25 +RUWLFXOWXUH

+25 /DQGVFDSH 'HVLJQ ,
3UHUHTXLVLWHV 0$7 0$7 0$7 0$7 RU 0$7

&RUHTXLVLWHV
7KLV FRXUVH FRYHUV ODQGVFDSH SULQFLSOHV DQG SU
VLWHV (PSKDVLV LV SODFHG
GHVLJQ SODQW PDWHULDO VHOHFWLRQ DQG
SODQWV DQG GLVFRXUDJH
DEOH WR UHDG SODQ DQG
)$

+25 /DQGVFDSH &RQVWUXFWLRQ 66
3UHUHTXLVLWHV 0$7 0$7 0$7 RU 0$7
DES€V

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FRPSOHWLRQ VWXGHQWV VKRXOG EH DEOH WR GHPS
UHODWHG WR WKH SURGXFWLRQ RI 6\QHFWHG IUXLW

+25 3ODQW 0DWHULDOV ,)
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH FRYHUV LGHQWLILFDWLRQ FXOWXUH
VXVWDLQDEOH ODQGVFDSH (PSKDVLV LV SODFHG R
UHTXLUHPHQWV FXOWXUDO UHTXLUHPHQWV
8SRQ FRPSOHWLRQ VWXGHQWV VKRXOG EH DEOH W
VHOHFWLRQ DQG XWLOL]DWLRQ RI SODQW PDWHULDO
)$

+25 3ODQW 0DWHULDOV ,,

SURSDJDWLRQ WHFKQLTXHV 8SRQ FRPSOHWLRQ VWXG
SURSDJDWH RUQDPHQWDO SODQWV

+25 /DQGVFDSH 'HVLJQ ,, 6
3UHUHTXLVLWHV+25 +25
&RUHTXLVLWHV
7KLV FRXUVH FRYHUV UHVLGHQWLDO DQG FRPPHUFLDO
LQVWDOODWLRQ (PSKDVLV LV SODFHG RQ MRE FRVW H
GHVLJQ DQG PDLQWHQDQFH WHFKQLTXHV E8SRQ FRPSO
ODQGVFDSH GHVLJQ EOXHSULQWV GHYHORS FRVW HVW
68

+25 /DQGVFDSH ,UULJDWLRQ)
3UHUHTXLVLWHV /6* 0$7 0$7 0$7 0$7
RU 0$7
&RUHTXLVLWHV
7KLFRXUVH LQWURGXFHV EDVLF LUULJDWLRQ GHVLJQ O
VLWH DQDO\VLV FRPSRQHQWV RI LUULJDWLRQ V\VWHPV
LQVWDOODWLRQ WHFKQLTXHV 8SRQ FRPSOHWLRQ VWX
EDVLF ODQGVFDSH LUULJDWLRQ V\VWHPV

+25 1XUVHU\ 3URGXFWLRQ 6
3UHUHTXLVLWHV+25
&RUHTXLVLWHV
7KLV FRXUVH FRYHUV DOO DVSHFWV RI QXUVHU\ FURS S
SURGXFWLRQ DQG PDQDJHPHQW SUDFWLFHV SHVW FRQWU
FRPSOHWLRQ VWXGHQWV VKRXOG EH DEOH WR SURGXF

+25 *UHHQKRXVH 3URGXFWLRQ)
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH FRYHUV WKH SURGXFWLRQ RI FURSV (PSKDVLV L
VHOHFWLRQ DQG SURGXFWLRQ EDVHG RQ PDUNHW QHH
UHFRUG NHHSLQJ 8SRQ FRPSOHWLRQ VWXGHQWV VK
SURGXFWLRQ VFKHGXOHV WR VXSSO

+25 $UERULFXOWXUH 3UDFWLFHV 6
3UHUHTXLVLWHV
&RUHTXLVLWHV

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EH DEOH WR FULWLFDOO\ HYDOXDWH6WKHLU FRXUVHDWDQ
EHHQ DSSURYHG WR VDWLVI\ WKH IROORZLQJ UHTXLUHP
- +XPDQLWLHV$UWV *HQ (G FRXUVH IRU $ $ DQG $
- 2WKHU *HQ (G DQG 3UHDMRU (OHFWLYH FRXUVH
- +XPDQLWLHV)LQH $UWV *HQ (G FRXUVH IRU $ $ 6

+80 &ULWLFDO 7KLQNLQJ)6 66
3UHUHTXLVLWHV RU %63
&RUHTXLVLWHV
7KLVFRXUVH LQWURGXFHV WKH XVH RI FULWLFDO WKLQN
FRQIOLFW (PSKDVLV LV SODFHG RQ HYDOXDWLQJ LQIRU
FURFXOWXUDO SHUVSHFWLYHV DQG UHVROYLQJ FRQ
FRPSOHWHQHVV WKRXOG EH DEOH WR GHPRQVWUDWH RU

+80 $PHULFDQ VRFLHWLHV)6 66
3UHUHTXLVLWHV *HQHUDO %63
&RUHTXLVLWHV 1RQH
7KLV FRXUVH SURYLGHV DQ DQDO\WLFDO VWXG\ RI WKH UDLVH RI WKH
UROHV RI $PHULFDQ ZRPHQ IURP &RORQLDO WLPHV
ZRPHQ V UROHV DV UHIOHFWHG LQ $PHULFDQ ODQJXD
DQG PDLQVWUHDP FXOWXUH 8SRQ FRPSOHWLRQ RI WKLV
DQDO\]H WKH UROHV RI ZRPHQ DV UHIOHFWHG LQ Y
FRXUVH KDV EHHQ DSSURYHG WR VDWLVI\ WKH IROO
x +XPDQLWLHV)LQH $UWV *HQ (G FRXUVH IRU $
x +XPDQLWLHV)LQH $UWV $SSO 6FL *HQ (G FRXUVH

+80 ,QWURGXFWLRQ WR)LOP)6 66
3UHUHTXLVLWHV *HQHUDO
&RUHTXLVLWHV 1RQH
7KLV FRXUVH LQWURGXFHV WKH IXQGDPHQWDO HOH
7RSLFV LQFOXGH ILOP VW\OHV KLVWRULFDO DQG VRFLR
YDOXHV UHIOHFWHG LQ ILOP DUW 8SRQ FRPSOHWL
DQDO\]H WKH HOHPHQWV FRYHUHG LQ UHODWLRQ W
FRXUVH ZLOO EH GLVFXVVLRQV DQG WUDQVODWLQJ DQG
FKDUDFWHU GHYHORSPHQW DQDO\]LQJ FRQWHPSRU
WKH IROORZLQJ UHTXLUHPHQW V
x +XPDQLWLHV)LQH $UWV *HQ (G FRXUVH IRU $
x +XPDQLWLHV)LQH $UWV *HQ (G FRXUVH IRU $

+80 $GYDQFHG)LOP 6WXGLHV $1'
3UH5HTXLVLWHV 8QGHU
&RUHTXLVLWHV 1RQH
7KLV FRXUVH SURYLGHV DQ DGYDQFHG VWXG\ RI ILO
OHDUQHG LQ 7RSLFV LQFOXGH DGYDQFHG ILOP SUR

+80 ,QWHUQDW &XOWXUDO ([SORU $1'
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH SURYLGHV D IUDPHZRUN IRU VWXGHQWV
FRXQWU\XUHVLGHQWVRIWKH 8QLWHG 6WDWHV WR OHDUQ DERX
LV SODFHG RQ WKH GLVWLQFWLYH FXOWXUDO FKDUDF
FRPSOHWLRQ VWXGHQWV VKRXOG EH DEOH WR LGHQ
FDXVHV HIIHFWVDUODQGUWLFXODWH WKH LPSDFW RI RQH
63 7KLV FRXUVH KDV EHEQ DSSURYHG WR VDWLVI\
x 3UHPDMRU DQG RU (OHFWLYH FRXUVH IRU $ $ DQG

+80 +XPDQLWLHV , $1'
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH LQWURGXFHV WKH KXPDQLWLHV DV D UH
UHOLJLRQ DQG SKLORVRSK\ RI KXPDQNLQG V DQVZHU

+80 /HDGHUVKLS 'HYHORSPHQW)6
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH H[SORUHV WKH WKHRULHV DQG WHFKQ
(PSKDVLV LV SODFHG RQ OHDGHUVKLS VHWWLQJV DQG
HWKLFDO UHVSRQVLELOLWLHV RI OHDGHUVKLS 8SR
LGHQWLFDO FRQWHPSRUDU\ SKLORVRSK\ DQ

/'' /LJK'WXW\ 'LHVHO

/'' ,QWUR'/XLWKWLHVHO $1'
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH FRYHUV WKH KLVWRU\ HYROXWLRQ EDVL
OLJKWW\ GLHVHO /'' HQJLQHV 7RSLFV
IDPLOLDUL]DWLRQ WKH OLJKW\ SURFHGXUHV
[Âï{Â ñb Irm LD@ GPP•VH... PLE@0QUD\@G@V@L H@0QmT Pn `€±

PDLQWHQDQFH DQG ODQGVFDSH FRQVWUXFWLRQ 8S

IRU VXFFHVV LQ $OJHEUD 7ULJRQRPHWU\ , E\ REW
LQVWUXFWLRQDO VWUDWHJLHV ZLWK HPSKDVLV RQ
NQRZOHGJH)$

0$7 4XDQWLWDWLYH /LWHUDF\ 6XSSRUW)6
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH SURYLGHV DQ RSSRUWXQLW\ WR FXVW
WR 4XDQWLWDWLYH /LWHUDF\ 7RSLFV LQFOXGH
VWUDWHJLHV VRFLDO VNLOOV DQG JURZWK PLQGVH
8SRQ FRPSOHWLRQ VWXGHQWV VKRXOG EH DEOH WR
4XDQWLWDWLYH /LWHUDF\ E\ REWDLQLQJ VNLOOV W
ZLWK HPSKDVLV SODFHG RQ WKH PRVW HVVHQWLDO

0$7 6WDWLVWLFDO 0HWKRGV ,)6
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH SURYLGHV DQ RSSRUWXQLW\ WR FXVW
WR 6WDWLVWLFDO 0HWKRGV , 7RSLFV LQFOXGH GH
VWUDWHJLHV VRFLDO VNLOOV DQG JURZWK PLQGVH
8SRQ FRPSOHWLRQ VWXGHQWV VKRXOG EH DEOH WR
6WDWLVWLFDO 0HWKRGV , E\ REWDLQLQJ VNLOOV W
ZLWK HPSKDVLV SODFHG RQ WKH PRVW HVVHQWLDO

0$7 3UHFDOFXOXV $OJHEUD 6XSSRUW)6
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH SURYLGHV DQ RSSRUWXQLW\ WR FXVW
WR 3UHFDOFXOXV $OJHEUD 7RSLFV LQFOXGH GHYH
VWUDWHJLHV VRFLDO VNLOOV DQG JURZWK PLQGVH
8SRQ FRPSOHWLRQ VWXGHQWV VKRXOG EH DEOH WR
3UHFDOFXOXV $OJHEUD E\ REWDLQLQJ VNLOOV WKU
ZLWK HPSKDVLV SODFHG RQ WKH PRVW HVVHQWLDO

0$7 0DWK 0HDVXUHPHQW /LWHUDF\ )
3UHUHTXLVLWHV
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7KLV FRXUVH SURYLGHV D K

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WHFKQRORJ)$7KLV FRXUVH KDV EHHQ DSSURYHG W
UHTXLUHPHQW V

- x 8*(7& FRXUVH $R UHSOD
- x 0DWKHPDWLFV *HQ (G FRXUVH IRU $ $ 6 DQG $ *

0$7 3UHFDOFXOXV 7HU\ )6 66
3UHUHTXLVLWHV PLQLPXP JUDGH &
&RUHTXLVLWHV
7KLV FRXUVH LV GHVLJQHG WR GHYHORS DQ XQGHUV
WR WKH VWXGHQW V RZQ H[SHULHQFHV LV SODFHG RQ WKH DQDO
LQ PXOWLSOH UHSUHVHQWDWLRQV ULJKW DQG REC
FRQFHSWLRQV DQG SDUDPHWULF HTXDWLRQV 8S
VHOHFWSDQGRXWHDWH PRGHOV DQG WHFKQLTXHV IRU

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ZLWK DQG ZLWKRXW)\WHKLVQRFRXUVH KDV EHHQ DSSUR
IROORZLQJ UHTXLUHPHQW V

- x 3UHPDMRU DQG RU (OHFWLYH FRXUVH IRU $ $ I
- x 2WKHU *HQ (G DQG 3UHPDMRU (OHFWLYH +RXU

0(' 0HGLFDO $VVLVWLQJ

0(' 6XUYH\ RI 0HG 7HUPLQRORJ\ )6 66
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH LQWURGXFHV WKH YRFDEXODU\ DEEUH
RI PHGLFLQHV(SSOHDVLQJ EXLOGLQJ PHGLFDO WHU
DQG ZRUG URRWV 8SRQ FRPSOHWLRQ VWXGHQWV V
GHILQH DFFHSWHG PHGLFDO WHUPV

0/7 0HGLFDO /DERUDWRU\ 7HFKQROR

$GPLVVLRQ WR WKH 0HGLFDO /DERUDWRU\ 7HFKQ
RUGHU LQ WROO LQ 0/7 FRXUVHV

0/7 ,QWUR WR 0/7)
3UHUHTXLVLWHV
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07+ 7KHUDSHXWLFJHPDVVDJH 0 66
3UHUHTXLVLWHV
&RUHTXLVLWHV DQG 07+
7KLV FRXUVH LQWURGXFHV WKH EDVLF UHVSRQVLELOLW
PDVVDJH SUDFWLFH (PSKDVLV LV SODFHG RQ LGHQWLI
PHWKRGV VXFK DV REVHUYLQJ D EXVLQHVV VWUXFWXUH QHJRWL
D EXVLQHVV PDUNHWLQJ SODQ DQG SHUIRUPLQJ DQ

086)XQGDPHQWDOV RI 0XVLF $1'
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH LV DQ LQWURGXFWRU\ FRXUVH IRU VWX
(PSKDVLV LV SODFHG RQ PXVLF QRWDWLRQ UKWKP
LQWHUYDOV DQG FKRUGV 8SRQ FRPSOHWLRQ VWX
XQGHUVWDQGLQJ RI WKH IXQGLPHQWV RI PXVLF

086 2UFKHVWUD ,,)6
3UHUHTXLVLWHV
&RUXLTVLWHV
7KLV FRXUVH LV 086 RQW(PSKDVLV RQ SODFHG RQ RUFKHV
DQG WKH VWXG\ DQG SHUIRUPDQFH RI D YDULHW\ RI VW\
HQVHPEOH OLWHUDWXUH 8SRQ FRPSOHWLRQ UDWWXGHQ
QHHGHG WR SDUWLFLSDWH LQ HQVHPEOH6WXGLQJ OHD

SHUIRUPDQFH 7KH IROORZLQJ OHWWHUV VXPPDUL]H RUGLQDU
9RLFH3LP)ORZ2HR(H %DV&RQLQ6DP[RSKRQH3URWHFW -
)UHFK +RUQE.RQ9LROLQ&HOORX5OH %DVV 6
3HUFXVV*LRQD0DV *X9DUL WRQH 7XED7KLV FRXUVH KL
EHQHDSSURYHG WR VDWLVI\ WKH IROORZLQJ UHTXLUH
x 3UHPDMRU DQG RU (OHFWLYH FRXUVH IRU $ $ I

086 $SSOLHG 0XVLF ,)6
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH SURYLGHV LQGLYLGXDO LQVWUXFWLRQ
LQVWUXPHQW RU YRLFH (PSKDVLV LV SODFHG RQ W
DQG VWXG\ RI DSSURSULDWH OLWHUDWXUH 8SRQ
GHPRQVWUDWH SURILFLHQF\ LQ WKH VWXGHQW7KHO
IROORZLQJ OHWWHU VXIIL[HV GHVLJQDWH3HUIRUP
')OXW2HR(H %DV&RQLQ6DP[RSKRQH3HUF
7URPERQ9LROLQ&HOOR'RXEOH %DVV*XLWDU8
%DVV*XLWDU7HQRU 7XED7KLV FRXUVH KDV EHHQ DSSUR
IROORZLQJ UHTXLUHPHQWV
x 3UHPDMRU DQG RU (OHFWLYH FRXUVH IRU $ $ I

086 $SSOLHG 0XVLF ,,)6
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH LQGLYLGXDO LQVWUXFWLRQ RQ PSKDVLV LV SODFHG RQ WHF
DQG WKH H[SORUDWLRQ DQG VWXG\ RI DSSURSULDW
VKRXOG EH DEOH WR GHPRQVWUDWH SURILFLHQF\ LQ
SHUIRUPDQFH3HUZ7KH IROORZLQJ VXIIL[HV GHVLJQDWH D V
9RLFH3LP)ORZ2HR(H %DV&RQLQ6DP[RSKRQH3HUF -

086 &KRUXV ,,,)6
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH LV RIIHUHG RQ (PSOR\DELOLW\ SRO DFHG RQ YRFDO
WKH VWXG\ DQG SHUIRUPDQFH RI D YDULHW\ RI VW\O
FRPSOHWL•P À€2C`FŸDIHBTQs ŸrlÄð H

086 -D]] (QVHPEOH ,9)6
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH LV D FRQWLQXDWLRQ RI SODFHG RQ MD]]
WHFKQLTXHV DQG WKH VWXG\ DQG SHUIRUPDQFH RI D

086 &ODVV 0XVLF ,,,)6
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH LV GHVLJQHG WR SURYLGH VWXGHQWV RSSRUWXQLWLHV WR GHF
DQG WKH H[SORUDWLRQ DQG VWXG\ RI DSSURSULDW

0XVLF +LVW

UHTXLV 6 VHV

HTXLVLRQHV

FRXUVH LV WKH QG OLKUHUDWXUH RI PXVLF KLVWRU

FHG RQ WKH KL G OLKUHUDWXUH RI %DURTXH

LRG 8SRQ FR VWXGHQWV VKRXOG EH

HORSPHQWV D VWUDWH DQ XQGHUVWDQGL

FRXUVH KDV URYHG WR VDWLVI\ WKH IRC

3UHPDQGRU H FRXUVH IRU $ $ DQG $ 6

0XVLF ,, 6

UHTXLV 6 VH

HTXLVLRQH

FRXUVH RI PXVLF KLVWRU

ODFHG R WRU\ WKHG &OLDVVLFDO 3HULRG

E1 C Q FRPSO D

1(71HWZRUNLQJ 7HFKQRORJ\

1(7 ,QWURGXFWLRQ WR 1HWZRUNV)6
3UHUHTXLVLWH1RQH
&RUHTXLVLWHV1RQH
7KLV FRXUVH LQWURGXFHV WKH DUFKLWHFWXUH VW
RI WKH ,QWHUQHW DQG FRPSXWHU QHWZRUNV 7RSLF
,3 DGGUHVVLQJ DQG IXQGDPHQWDOV RI URXWLQJ
FRPSOHWLRQ VWXGHQWV VKRXOG EH DEOH WR E
FRQILJXUDWLRQV IRU URXWHUV DQG VZLWFKHV DQG
)$

1(7 5RXWLQJ %DVLFV)6 66
3UHUHTXLVLWHV1(7
&RUHTXLVLWH1RQH
7KLV FRXUVH IRFXVHV RQ LQLWLDO URXWHU FRQIL

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185 1VJUDQVLWLRQ &RQFHSWV 6
3UHUHTXLVLWHV%,2 36<
&RUHTXLVLWHV(1* RU
7KLV FRXUVH LV GHVLJQHG WR LQWURGXFH FRQFHSW
LQGLYLGXDO KHDOWKFDUH DQG QXUVLQJ DV WKH /31 \
LV SODFHG RQ WKH FRQFHSWV RI FRPSDVVLRQDWH FDUH
TXDOLW\ LPSURYHPHQW FRPPXQLFDWLRQ VDIHW\ LQW
PDNLQJ LQIRUPDWLFV DVVHVVPHQW DQG 8SRQ
FRPSOHWLRQ VWXGHQWV VKRXOG EH FRPRUDWUDWUDW

23+ 2SKWKDOPLF &OLQ 3URF ,, 6
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH LQWURGXFHV PRUH LQWHUPHGLDWH P
SUDFWLFH 7RSLFV LQFOXGH FRGLQJ DQG WHVWLQJ
FDWDUDFWV DQG UHIUDFWLYH HUURUV RSWLFDO GHYLFHV
IRU RSKWKDOPLF SURFHGXUHV DQG SHUIRUP PRUH L
)$

23+ 2SKWKDOPLF 3DWLHQW &DUH 6
3UHUHTXLVLWHV 23+
&RUHTXLVLWHV
7KLV FRXUVH LV GHVLJQHG WR SURYLGH VWXGHQWV
V\VWHPLF GLVHDVHV LQ WKH H\H UHYLHZ RI ILUVW
LQIHFWLRQ FRQWURO LGHQWLILFDWLRQ DQG VWHU
DVHSWLF WHFKQLTXHV 3RVW FRQVXOWDWLRQ OG EH D
SULQFLSOHV LQ WKHLU LQWHUDFWLRQV ZLWK SDWLH

23+ 2SKWKD 2SWLFV %DVLF 5HIUDFW)
3UHUHTXLVLWHV 23+
&RUHTXLVLWHV
7L!Ÿ 0#a€ H[2 G HW p4€ XG

VKRXOG GHPRQVWUDWH D EDVLF XQGHUVWDQGLQJ DQG
SK\VLRORJ\ RI WKH H\H

267 2IILFH 6\VWHPV 7HFKQRORJ\

267 .H\ERDUGLQJ /LWHUDF\ )6
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH LV GHVLJQHG WR GHYHORS HOHPHQWDU\ N
RQ PDVWHU\ RI WKH NH\ERDUG 8SRQ WRPSOHWLRQ
EDVLF SURILFLHQF\ LQ6NH\ERDUGLQJ

267 .H\ERDUGLQJ)6
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH FRYHUV EDVLF NH\ERDUGLQJ VNLOOV (PS
FRUUHFW WHFKQLTXHV
VKRXOG EH DEOH WR NH\ DW DQ DFFHSWDEOH VSHHG DQ
68

267 7H[W (QWU\ )RUPDWWLQJ 6
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH LV GHVLJQHG WR SURYLGH VNLOOV QHHGHG WR L

DQG IW±r5 V 2`H

UHTXLUHG WR GHVLJQ GRFXPHQWV WKDWZDDQ EH
DSSOLFDWLRQV

267 0HG ,QV %LOOLQJ 6
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH LQWURGXFHV IXQGDPHQWDOV RI PHGL
SODFHG RQ WKH PHGLFDO ELOOLQJ FRGLQJ WRROV
IRUP SUHSDUDWLRQ 8SRQ FRPSOHWLRQ VWXGHQWV
DQG DFFXUDWHO\ FRPSOHWH D PHGLFDO LQVXUDQFH

267 0HGLFDO /HJDO ,VVXHV)
3UHUHTXLVLWHV 267
&RUHTXLVLWHV
7KLV FRXUVH LQWURGXFHV WKH FRPSOH[OHJDO P
SURYLGLQJ HDFK HDOWK VHUYLFHV (PSKDVLV LV SODFHG RQ
PHGLFDO SUDFWLFH WKH UHODWLRQVKLS RI SK\
SURIHVVLRQDOV PDOSUDFWLFH DQG PHGLFDO SUDFWLFH
VKRXOG EH DEOH WR GHPRQVWUDWH D ZRUNLQJ NQ
DFFHSWHG HWKLFDO EHKDYLRU

267

267 0HG &RGLQJ &HUWLILFDWLRQ 6
3UHUHTXLVLWH 267
&RUHTXLVLWHV
7KLV FRXUVH SURYLGHV VWXGHQWV WKDW ZLOO SUHSDUH VWX
FHUWLILFDWLRQ H[DP 7RSLFV LQFOXGH GLDJQRVWLF
VWXGHQWV VKRXOG EH DEOH WR VLW IRU YDULRXV
)$

267 /RQ7HUP &DUH &RGLQJ 6
3UHUHTXLVLWH
&RUHTXLVLWHV
7KLV FRXUVH FRYHUV GLDJQRVWLF FRGLQJ JXLGHOLQHV
FDUH 7RSLFV LQFOXGH GLDJQRVWLF

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&855,&8/80 &2856('(6&5,37,216

FRPSOHWLRQ VWXGHQWV VKRXOG EH DEOH WR HVV
DGYDQFHG ZHLJKW WUDQVFULSW RU VHH DV EHHQ DSSU
WKH IROORZLQJ UHTXLUHPHQ
x 3UHPDMRU DQG RU (OHFWLYH FRXUVH IR•Hàn&XQ

3(')HQFLQJ

3(' %DVNH%WHEJLQQQLQJ)6
3UHUHTXLVLWHV
&RUHTXLVLWHV

3(' 6ZLPPLQJ IRU)LWQHVV $1'
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH LQWURGXFHV ODS VZLPPLQJ DTXDFL
(PSKDVLV LV SODFHG RQ LQFUHDVLQJ FDUGLRYDVFX
8SRQ FRPSOHWLRQ VWXGHQWV
SURJUDP 637KLV FRXUVH KDV EHHQ DSSURYHG WH
UHTXLUHPHQW V

- 3UHPDMRU DQG RU (OHFWLYH FRXUVH IRU $ $ I

3(' &DQRHLQJ

3(' 2UHLQWHHULQJ $1'
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH LQWURGXFHV WKH YDULRXV W\SHV RI RU
WHFKQLTXHV (PSKDVLV LV SODFHG RQ GHILQLQJ YDU
UHFRJQL]LQJ DQG GUDZLQJ PEWRVRJ&DSKLFR PSOHWLRQ V
EH DEOH WR GUDZ WRSRJUDSKLF PDS VWRRXWDQG Q
RULHQWHHULQJ FRXUVH LQ D 6STHFLLFHGXWLHKDSHUH
DSSURYHG WR VDWLVI\ WKH IROORZLQJ UHTXLUHPHQW V
x 3UHMRU DQG RU (OHFWLYH FRXUVH IRU $ $ DQG $

3(' %DFNSDFNLQJ $1'
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH FRYHUV WKH SURSHU WHFKQLTXHV IRU HV
ZLOGHUQHVV DQG SODQQLQJ FRQVLGHUDWLRQV IRU
SURSHU XVH RI PDSV DQG FRPSDVV DQG SDFNLQJ DQG
RXWGRRUV 8SRQ FRPSOHWLRQ VWXGHQWV VKRXOG EH
HTXLSPHQW LGHQWLI\ DQG
EDFNSDFNLQJ H[SHULHQFH
IROORZLQJ UHTXLUHPHQW V
x 3UHMRU DQG RU (OHFWLYH FRXUVH IRU $ $ DQG

3(' 5RFN &OLPELQJ $1'
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH WHDFKHV WKH IXQGDPHQWDO VNLOOV DQG

x 3UHPDMRU DQG RU (OHFWLYH FRXUVH IRU $ $ I

3(' 'DQFLQJ IRU)LWQHVV $1'
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH LVHYGHOVRSQHRGYHPHQW DQG UHFUHDWLR
ILWQHVV FRRUGLQDWLRQ DQG WHFKQLTXHV XVHG W
RQ SDUWLFLSDWLRQ DQG SUDFWLFH ZLWK DGDSWLQ
FRPSOHWLRQ VWXGHQWV DUH H[SHFWHG WR GHPRQVWUDWH NQRZOH
VRFLDO IRON DQG VTXDUH GDQFH 6WUXFWXUH RSWLRQV
EHHQ DSSURYHG WR VDWLVI\ WKH IROORZLQJ UHTXLU
x 3UHPDMRU DQG RU (OHFWLYH FRXUVH IRU $ $ I

3(' 6RFLDO 'DQFLQJ $1'
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH LQWURGXFHV WKH IXQGDPHQWDOV RI S
RQ EDVLF VRFLDO GDQFH WHFKQLTXHV GDQFHV DQ
FRPSOHWLRQ VWXGHQWV VKRXOG EH DEOH WR GHPRQVWUDWH
VRPH GDQFHV 7KLV FRXUVH KDV EHHQ DSSURYHG W
UHTXLUHPHQW V
x 3UHPDMRU DQG RU (OHFWLYH FRXUVH IRU $ $ I

3(' 6QRZERDUGLQJ $1'
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH LV GHVLJQHG WR GHYHORS WKH EDVI
7RSLFV LQFOXGH HTXLSPHQW FRQGLWLRQLQJ H[H
IXQGDPHQWDO VNLOOV DQG WKHRU\ &RQVLGHUDWLRQV

XVLQJ D PDW RU HTXLSPHQW UHOHYDQW DQDWRP\ DQG
UHODWHG FRQFHSWV 8SRQ FRPSOHWLRQ RI WKLV XQLW VWXGHQWV VKRX
DQG DGYDQFHG H[HUFLVHV WR GHPRQVWUDWH WKHLU XQGHUVWDQGLQ
3LODWHV SUDFWLFH FRXUVH KDV EHHQ DSSURYHG WR
UHTXLUHPHQW V

x 3UHPDMRU DQG RU (OHFWLYH FRXUVH IRU $ $ DQG

3(' 'LVF *ROI $1'
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH LQWURGXFHV WKH IXQGDPHQWDOV RI GLV
WKURZLQJ WHFKQLTXHV SXWWLQJ GLVWDQFH GULYLQJ
8SRQ FRPSOHWLRQ RI WKLV XQLW VWXGHQWV VKRXOG EH DEOH WR
VLWXDWLRQV 7KLV FRXUVH KDV EHHQ DSSURYHG WR
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x 3UHPDMRU DQG RU (OHFWLYH FRXUVH IRU $ $ DQG

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3UHUHTXLVLWHV P WHLOQWF

&RUHTXLVLWHV — 0

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- +XPDQLWLHV)LQH $UWV *HQ (G FRXUVH IRU $

3+<3K\VLFV

3+< &RQFHSWXDO 3K\VLFV)6
3UHUHTXLVLWHV RU %63
&RUHTXLVLWHV
7KLV FRXUVH SURYLGHV D FRQFHSWXDO XQGHUVWDQGLQJ RI WKH IXQGDP
SURFHVVHV RI WKH SK\VLFDO ZRUOG 7RSLFV LQFO
HQHUJ\ KHDW HOHFWULFLW\ PDWWHU VWUXFWXUH RI PDWWH
FRPSOHWLRQ VWXGHQWV VKRXOG EH DEOH WR GH
SULQFLSOHV VWXGLHG FRXUVH KDV EHHQ DSSURYHG V
UHTXLUHPHQW V

- 8*(7& FRXUVH $ IRU $ QG $ 6
- 1DWXUDO 6FLHQFH *HQ (G FRXUVH IRU $ 6
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3+< $ &RQFHSWXDO 3K\VLFV /DE)6
3UHUHTXLVLWHV RU %63
&RUHTXLVLWHV
7KLV FRXUVH LV 3+<6 ODERUDWRU\ FRPSRQHQW RI 3+<6 WKDW HQKDQFH PDVWHU\ RI FRQFHSWV VWXG
DEOH WR DSSO\ WKH ODERUDWRU\ H[SHULHQFHV WR
687KLV FRXUVH KDV EHHQ DSSURYHG WR VDWLVI\ PHC

- 8*(7& FRXUVH DQG $)$$
- 1DWXUDO 6FLHQFH *HQ (G FRXUVH IRU $ 6
- 1DWXUDO 6FLHQFH *HQ (G FRXUVH IRU $ $ 6 D

3+< 3K\VLFDO &KDQLFV 66
3UHUHTXLVLWHV

- 8*(7& FRXUVH IRU $ 6
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3UHUHTXLVLWHV

&RUHTXLVLWHV

7KLV FRXUVH LQFOXGHV WUDGLWLRQDO PDWHULDO WKH PDWKHPDWLFDO PRGHOV WKH IXQGDPHQWDO FRQFHSWV WKDW GHVFULEH PDWWHU DQG HQHUJ\ IRUFHV HOHFWULF ILHOGV FXUUHQWV PDJQHWLF ILHOGV HOHFWURPDJQHWLF LQGXFWLRQ 8SRQ FRPSOHWLRQ VWXGHQWV VKRXOG EH DEOH WR GHVFULEH DQG DQDO SULQFLSOHV LQYROYHG DQGV RODYSQD\ DEDQGDWWLFDO WSK FRYHUHG 687KLV FRXUVH KDV EHHQ DSSURYHG WR V UHTXLUHPHQW V

- 8*(7& FRXUVH IRU $ 6
- 1DWXUDO 6FLHQFH *HQ (G FRXUVH IRU $ $
- 1DWXUDO 6FLHQFH *HQ (G FRXUVH IRU $ $ 6 DQG $ * (

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3UHUHTXLVLWHV

&RUHTXLVLWHV

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- 8*(7& FRXUVH IRU $ (DQG $ 6
- 1DWXUDO 6FLHQFH *HQ (G FRXUVH IRU $ $

3+< *HQHUDO 3K\VLFV ,, 6

3UHUHTXLVLWHVDQG<

&RUHTXLVLWHV

7KLV FRXUVH XEDVVHG FDPDWKHPDWLFDO PRGHOV WR LQWU FRQFHSWV WKDW GHVFULEH WKH SK\VLFDO ZRUOG 7RS ILHOGHGVHFWULF SRWXQUHODWLYLWFLUFXLHWV PDJQHWRVWDWLF HOHFWURPDJQHWLF LQGXFWLRQ 0DZHOOV VWXGHQWV VKRXOG EH DEOH WR GHPRQVWUDWH DQ XQG GLVSOD\ DQDOWRLFYDLQJSUREEOHW\ IRU WK687WRSLFV FRY FRXUVH KDV EHHQ DSSURYHG WR VDWLVI\ WKH IROORZL

- 8*(7& FRXUVH IRU $ (DQG $ 6
- 1DWXUDO 6FLHQFH *HQ (G FRXUVH IRU $ $

32/ ,QWHUQDWLRQDO 5HODWLRQV $1'
3UHUHTXLVLWH*WHVRU %63
&RUHTXLVLWHLRQHV
7KLV FRXUVH SURYLGHV D VWXG\ RI WKH HIIHFWV RI
DOOLDQFHV RQ UHODWLRQV DPRQJ VWDWHV DQG QRQVWDWH DFWRUV UHJLRQDO
FRRSHUDWLRQ DQG FRQIOLFW HFRQRPLF FRQGLWLRQV

QHXURORJLFDO SV\FKRORJ\ 6\OODEXV &RGH
VDWLVIDFWRU\ RU EHWWHU LQ UHTXLUHPHQW V

- 3UHPDMRU DQG RU (OHFWLYH FRXUVH IRU $ $
- 6RFLDO %HKDYLRUDO 6FLHQFH *HQ (G FRXUVH

36<)RUHQVLF 3V\FKRORJ\ 6
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH LQWURGXFHV WKH VWXG\ RI SV\FKRORJ\ DV LW DSSOLHV WR WKH
V\VWHP 7RSLFV LQFOXGH GHILQLQJ FRPSHWHQF\ LQ ZHOO DV LQWURGXFLQJ IRUHQVLF DVVHVVPHQW WHVWLPRQ\ DQG UHSRUW ZULWLQJ
VWXGHQWV VKRXOG EH DEOH WR GHPRQVWUDWH NQRZOHGJH RI WKH DSSOLFDWLRQ RI SV\FKRORJ\ WR WKH OHJDO V\VWHP
UHTXLUHPHQW V

- 3UHPDMRU DQG RU (OHFWLYH FRXUVH IRU $ $

36< 6RFLDO 3V\FKRORJ\ $1'
3UHUHTXLVLWHV 6RFLRORJ\
&RUHTXLVLWHV
7KLV FRXUVH LQWURGXFHV WKH VWXG\ RI WKH LQGLYLGXDO LQ WKH VRFLDO FRQWH[W 7RSLFV LQFOXGH DIILOLDWLRQ DWWLWXGH IRUPDWLRQ DQG FKDQJH LQWHUSHUVRQDO DWWUDFWLRQ DQG
VKRXOG EH DEOH WR GHPRQVWUDWH DQ XQGHUVWDQGLQJ RI WKH LQIOXHQFHV RQ EHKDYLRUV KDV EHHQ SURY
IROORZLQJ UHTXLUHPHQW V

- 6RFLDO %HKDYLRUDO 6FLHQFH *HQ (G FRXUVH
- 6RFLDO %HKDYLRUDO 6FLHQFH *HQ (G FRXUVH

36< 3V\FKRORJLFDO 3HUVRQDOLW\ )
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH FRYHUV PDMRU SHUVRQDOLW\ WKHRULH
LQFOXGH SV\FKRDQDO\WLF EHKDYLRULVWLF VRFLDO
WKHRUHWLFDO VXSSRUWLQJ UHVHDUFK 8SRQ FRPS
FRPSDUH DQG FRQWUDVW WUDGLWLRQDO DQG FRQWH
LQGLYLGXDO GLIIHUHQFHV 6WXGHQWV VKRXOG EH DEOH
WR VDWLVIDFWRULO\ FRPSOHWH DOO UHTXLUHPHQW V

- 6RFLDO %HKDYLRUDO 6FLHQFH *HQ (G FRXUVH

36< 6SRUWKRVRF\ $1'
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH SURYLGHV DQ RYHUYLHZ RI WKH SLEHOG
LQFOXGH FRQFHQWUDWLRQ JRDO VHWWLQJ DURX
LPDJHU\ FRQILGHQFH VXDQGURWDWHG WR VSRUWV DQG
FRPSOHWLRQ VWXGHQWV VKRXOG EH ESTABLISHED FKRROWRJLDPR

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5$' 5$' &OLQLFDO (G ,, 6
3UHUHTXLVLWHV 5$' 5$'
&RUHTXLVLWHV 5$'
7KLV FRXUVH SURYLGHV DGGLWLRQDO GHSWK UHLQIRUFHPHQW
FRPSOH[UDGLRJUDSKLF SURFHGXUHV Sd•Hç• HŽyd•Hä PI

DQG VXFFHVVLQXOO WR DVKRSVW SURFHGXUHV 8SRQ FRPSOH
DEOH WR GHPRQVWUDWH VXFFHVVIXO F)RPSOHWLRQ RI F

5$' C&HëÂ ó C!stm 5$

LQWHUSUHWDWLRQ 8SRQ FRPSOHWLRQ VWXGHQWV
LQ W9FS HTStd4Qôeu1dŽ HVH FRQFHSWV WKURXGK ZULWWHQ HYDOXDWL

5&3 &3 3DWKRSK\VLRORJ\ 66
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FR Xòq™U€ 2dŽ¼ (ã 2 ` R Xòq™U€ 2dŽ¼ X

5&3 1HRQDWDO 3HG¶V &RQFHSWV)
3UHUHTXLVLWH &RXUVHV
&RUHTXLVLWH &RXUVHV
7KLV FRXUVH SURYLGHV FRPSUHKHQVLYH FRYHUDJH RI W
UHVSLUDWRU\ FDUH (PSKDVLV LV SODFHG RQ SDWKRS
VSHFLDO WKHUDSHXWLF QHHGV RI QHRQDWHV DQG FKLO

7HVWDPHQW OLWLJDWLRQ FRXUVH KDV EHHQ DSSURYHG V
UHTXLUHPHQW V

- x +XPDQLWLHV)LQH $UWV *HQ $(G FRXUVH IRU $
- x +XPDQLWLHV)LQH $UWV *HQ (G FRXUVH IRU $

5(/ 5HOLJLRQ LQ $PHULFD $1'
3UHUHTXLVLWH RU &RUHTXLVLWH
7KLV FRXUVH LV DQ H[DPLQDWLRQ RI UHOLJLRXV EH
(PSKDVLV LV SODFHG RQ UHOLJLRXV GLYHUVLW\ DQG
PRYHPHQWV IURP WKH &RORQLDO SHULRG WR WKH S
EH DEOH WR UHFRJQL]H DQG DSSUHFLDWH WKH GLY
6 7KLV FRXUVH KDV EHHQ DSSURYHG WR VDWLVI\ WKH IRO

- x +XPDQLWLHV)LQH $UWV *HQ (G FRXUVH IRU $
- x +XPDQLWLHV)LQH $UWV *HQ (G FRXUVH IRU $

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3UHUHTXLVLWH RU &RUHTXLVLWH
7KLV FRXUVH LQWURGXFHV WHFKQLTXHV QHFHVVDU
LQYHVWPHQWV 7RSLFV LQFOXGH HDQDO\VLV RI SURS
SURFHVV GHVLJQ DFTXLVLWLRQ DQG GLVSRVLWLRQ

VWXGHQWV VKRXOG EH DEOH WR SURGXFH RE MHFWLYH ZDON DQG UXQ F\FOHV DQG GHYHORS SURIHVVLRQDO

6*' 6*/HYHO 'HVLJQ 66
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH LQWURGXFHV WKH WRROLPHV VXLWHG DWWRLFH
JDPH7R SLFV LQFOXGH OHYHO GHVLJQ DUFKLWHFWXU
WH[WXULQJ PHWKRGV 8SRQ FRPSOHWLRQ VWXGHQWV
XVLQJ LQGXVWU\ VW63QGDUG WRROV

6*' 6*''HVLJQ)
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KH FRXUVH FRYHUV WKH DGYDQFHG SULQFLSOHV R
LQFOXGH DGYDQFHG GHVLJQ FRQFHSWV LQ VLPXO
FRPSOHWLRQ VWXGHQWV VKRXOG EH DEOH WR GHVL
63

6*' ' 0RGHOLQJ ,,)
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH LQWURGXFHV WKH WRROV XVHG WR FU
PRGHOV (PSKDVLV LV SODFHG RQ LGHQWLI\LQJ DQG
DQLPDWH DGYDQFHG ' PRGHOV 8SRQ FRPSOHWLRQ
DQLPDWH DGYDQFHG ' PRGHOV XV63QJ ' PRGHOLQJ V

6*' 6*' 3URMHFW 6
3UHUHTXLVLWHV6*' 6*' R6U'
&RUHTXLVLWHV
7KLVFRXUVHXSURYLGHV VWXGHQWV ZLWK WKH RSSRUWXQ
JDPH ZLWK PLQLPDO LQVWUXFWRU VXSSRUW (PSKD
FRPPXQLFDWLRQ VNLOO GRFXPHQWDWLRQ SURIHVV
FRPSOHWHWKHXGHQWV VKRXOG EH DEOH WR FUHDWH
IXQFWLRQDO VLPXODWLRQ RU JDPH

62& 6RFLRORJ\ RI WKH)DPLO\ )6 66
3UHUHTXLVLWHV *WHVRU %63
&RUHTXLVLWHV QRQH
7KLV FRXUVH WKH LQVWLWXWLRQ RI WKH IDPLO\ DQG
(PSKDVLV LV SODFHG RQ PDWH VHOHFWLRQ JHQGHU UR
DQG FRQIOLFW SDUHQWKRRG GLYHUVH OLIHVW\OHV
LVVXHV 8SRQ FRPSXWHUV VKRXOG EH DEOH WR D
LQVWLWXWLRQ DQG WKH VRFLDO IRUFHV ZKLFK LQIOXH
68 7KLV FRXUVH KDV EHHQ DSSURYHG WR VDWLVI\ UHPHQW
x 6RFLDO %HKDYLRUDO 6FLHQFH *HQ (G FRXUVH IR
x 6RFLDO %HKDYLRUDO 6FLHQFH *HQ (G FRXUVH IR

62& 6RFLDO 3UREOHPV)6 66
3UHUHTXLVLWHV *WHVRU %63
&RUHTXLVLWHV QRQH
7KLV FRXUVH SUHVHQWV D FXUULFXOXP RI FXUUHQW VRFLDO SUREOHP
RQ FDXVHV FRQVHTXHQFHV DQG SRVVLEOH VROXWLRQ
VFKRROV ZRUNSODFHV FRPPXQLWLHV DQG WKH HQYL
VKRXOG EH DEOH WR UHFRJQL]H GHILQH DQDO\]H SUREOHPV DQG
68 7KLV FRXUVH KDV EHHQ DSSURYHG WR VDWLVI\ UHPH
x 6RFLDO %HKDYLRUDO 6FLHQFH *HQ (G FRXUVH IR
x 6RFLDO %HKDYLRUDO 6FLHQFH *HQ (G FRXUVH IR

62& 6RFLDO 'LYHUVLW\ $1'
3UHUHTXLVLWHV *WHVRU %63
&RUHTXLVLWHV QRQH
7KLV FRXUVH SURYLGHV D FRPSDULVRQ RI GLYHUVH
FRQWULEXWLRQV DQG H[SHULHQFHV LQ VRFLDO OLIH
VH[XDO RULHQWDWLRQ 8SRQ VXFFHVVIXO FRPSOHWLRQ VWXGHQWV
DQDO\]H KRZ FXOWXUDO DQG HWKQLF GLIIHUHQFHV HY
GHYHORSPHQW YDOXHV 68 7KLV FRXUVH KDV EHHQ DSSURYHG WR VDWLVI\ UHPHQW

62& 6RFLRORJ\ RI *HQGHU $1'
3UHUHTXLVLWH1RQH
&RUHTXLVLWHV1RQH
7KLV FRXUVH H[DPLQHV FRQWHPSRUDU\ UROHV LQ V
FKDQJHSVLFV7RLQFOXGH VH[UROH VRFLDOL]DWLRQ P\V
UHODWHG WR IDPLO\ ZRUN DQG SRZHU 8SRQ FRP
DQDO\]H PRGHUQ UHODWLRQVKLSV 6WXGHQWV FRXQVHO
EHHQ DSSURYHG WR WDNH WKLV FRXUVH DW]LQJ UHTXLUHPHQW V
- 3UHPDMRU DQG RXUVH RI\ DQG $ 6
- 6RFLDO %HKDYLRUDO 6FLHQFH *HQ (G FRXUVH

62& 6RFLDO 3V\FKRORJ\ $1'
3UHUHTXLVLWH1RQH
&RUHTXLVLWHV1RQH
7KLVFRXUVHH[DPLQHV WKH LQIOXHQFH RI FXOWXUH DQG
DQG SHUVRQDOLW\ (PSKDVLV LV SODFHG RQ WKH S
FRQIRUPLW\ GHYLDQFH LQWHUSHUVRQDO DWWUDF
JURXSHUHLQIOXHQFHV DQG VRFLDO PRYHPHQWV 8SRQ FR

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FRPSOH[LW\ DQG VRSKLVWLFDWLRQ KDV EHHQ DGGHG WR DOORZ IRU UHTXLUHPHQW V

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659 6XUYH\LQJ , 66
3UHUHTXLVLWHV (*5
&RUHTXLVLWHV %63 0$7 RU 0$7
7KLV FRXUVH LQWURGXFHV WKH WKHRU\ DQG SUDFW
SUHFLVH PHDVXUHPHQW RI HDUWKV VXUIDFHV DQG
WUDYHUVH FRPSXWDWLRQV WRSRJUDSK\ DQG PDSSL
DEOH WR XVH FDUH IRU VXUYH\LQJ HTXLSPHQW FRC
FRPSXWDWLRQV DQG FUHDWH D FRQWRXU PDS

659 6XUYH\LQJ ,,)
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&RUHTXLVLWHS C&HëÂIñ%T9]ñ9s9] 659

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:%/ :RUNDVHG /HDUQLQJ

:%/ 75) :RUOG RI :RUN)
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH FRYHUV EDVLF NQRZOHGJH QHFHVVI
HPSKDVLV 7RSLFV LQFOXGH MRE VHDUFK VNLOOV
H[SHFWDWLRQV ZRUNSODFH VDIHW\ DQG KXPDQ U
VKRXOG EH DEOH WR VXFFHVVIXOO\ PDNH WKH WUDQ

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3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH SURYLGHV EDVLF NQRZOHGJH H[SHULHQFH
HPSOR\HU LQ DQ DUHD UHODWHG WR WKH VWXGHQW
LQWHJUDWLQJ FODVVURRP DQG ZRUN H[SHULHQFH
VWXGHQWV VKRXOG EH DEOH WR HYDOXDWH FDUHHU
DQG VDWLVIDFWLRQ RSSRUWXQLWLHV

:%/ %3$:RUNDVHG /HDUQLQJ ,)
3UHUHTXLVLWHV

LQWHJUDWLQJ FODVVURRP OHDUQLQJ ZLWK UHODWHG
VWXGHQWV VKRXOG EH DEOH WR HYDOXDWH VF DUHHU VH
DQG VDWLVIDFWRU\ OHDUQLQJ H[SHULHQFHV

:%/ &-&:RUN%DVHG /HDUQLQJ , 66
3UHUHTXLVLWH 1*WHVRU %63 &-& &-& &-& RU &-&

&RUHTXLVL%WHV
7KLV FRXUVH SUHDVVXPHV EDVLF NQRZOHGJH [SLWK SURFHGXUH
HPSOR\HU LQ DQ DUHD UHODWHG WR WKH VWXGHQW V
LQWHJUDWLQJ FODVVURRP OHDUQLQJ ZLWK UHODWHG
VWXGHQWV VKRXOG EH DEOH WRUHDVRQDEOHXVH
DQG VDWLVIDFWRU\ OHDUQLQJ H[SHULHQFHV SODQ
SQW BDÂ#ÀÔ]& HP BD HSÀP «ëÂ ÂÐ[@TDUÐP€P BDÀUHP BD &S

VWXGHQWHV DVEKRXOGREHYDOXDWH FDUHHU VHOHFWLRQ
DQG VDWLVIDFWRULOOWHGIRESPZHUHQFLHV

:%/ $5&:RUN%DVHG /HDUQLQJ , $1'
3UHUHTXLVLWHQRWHV
&RUHTXLVLWHQRWHV
7KLV FRXUVH SURYLGHV DQ RSSRUWXQLW\ IRU VWXGHQWV WR GHYHORS D
HPSOR\HU LQ DQ DUHD UHODWHG WR WKH VWXGHQW
LQWHJUDWLQJ FODVVURRP OHDUQLQJ ZLWK UHODW
VWXGHQWV VKRXOG EH DEOH WR GHPRQVWUDWH FDUHHU HOH
DQG VDWLVIDFWRULOOWHGIRESPZHUHQFLHV

:%/ &(7:RUN%DVHG /HDUQLQJ , $1'
3UHUHTXLVLWHQRWHV
&RUHTXLVLWHQRWHV
7KLV FRXUVH SURYLGHV DQ RSSRUWXQLW\ H[SHULHQFH
HPSOR\HU LQ DQ DUHD UHODWHG WR WKH VWXGHQW
LQWHJUDWLQJ FODVVURRP OHDUQLQJ ZLWK UHODW
VWXGHQWV VKRXOG EH DEOH WR HYDOXDWH
DQG VDWLVIDFWRULOOWHGIRESPZHUHQFLHV

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7KLV FRXUVH SURYLGHV DQ RSSRUWXQLW\ H[SHULHQFH
HPSOR\HU LQ DQ DUHD UHODWHG WR WKH VWXGHQW V SURJUDP
LQWHJUDWLQJ FODVVURRP OHDUQLQJ ZLWK UHODW
VWXGHQWV VKRXOG EH DEOH WR HYDOXDWH FDUHHU
DQG VDWLVIDFWRULOOWHGIRESPZHUHQFLHV

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DQG VDWLVIDFWRULOOWHGIRESPZHUHQFLHV

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HPSOR\HU UHODWHG WR WKH VWXGHQW

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3UHUHTXLVLWHVRU %63 &-& &-& &-& RU &-&

&RUHTXLVLWHV
7KLV FRXUVH ZLOO SURYLGH WKH VWXGHQW ZLWK DQ
H[SHULHQFHV LQ WKH FULPLQDOLVWLFV ILHOG WKDW
FRS ZRUN LQ WKH FULPLQDOLVWLFV ILHOG DQG
FRXUVH EDVHG XSRQ ZKHUH WKH RSSRUWXQLWLHV
&RXUWKRXVH 'HSDUWPHQW RI &RUU/HDUQLQJ &HQWHU
$JHQF\ &-&&RPPXQLW\ &RUUHFWLRQV)$

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HPSOR\HH DUHDV DQG HODWHG WR WKH VWXGHQW¶V SURJUDP
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7KLV FRXUVH SURYLGHV VWXGHQWV OHDUQLQJ H[SHULHQFHV WKDW HQDEOH WKHP WR
HPSOR\HU LQ DQ DUHD UHODWHG WR WKH VWXGHQW
LQWHJUDWLQJ FODVVURRP OHDUQLQJ ZLWK UHODW
VWXGHQWV VKRXOG EH DEOH WR GHPRQVWUDWH
DQG VDWLVIDFWRULO\ GHPRQVWUDWH

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HPSOR\HU LQ DQ DUHD UHODWHG WR WKH VWXGHQW
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DQG VDWLVIDFWRULOLO WHG IRP ZRQ FLHV

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7KLV FRXUVH SURYLGHV ZRUN H[SHULHQFH DW 6DQGKL
VXSHUYLVLRQ RI WKH 6&& IDFXOW\ LQ DUHDV UHODWH
(PSKDVLV LV SODFHG RQ WHDPZRUN OHDGHUVKLS DQG
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VWXGHQWV VKRXOG EH DEOH WR HYDOXDWH FDUHHU VH
DQG VDWLVIDFWRULOLOD WHG IRE PSZHUHQ FLHV

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&RUHTXLVLWHV
7KLV FRXUVH SURYLGHVOHDZURUNLQJ H[SHULHQFH WKH
HPSOR\HU LQ DQ DUHD UHODWHG WR WKH VWXGHQW V
LQWHJUDWLQJ FODVVURRP OHDUQLQJ ZLWK SUDFWDOH[S
VWXGHQWV VKRXOG EH DEOH WR HYDOXDWH FDUHHU VH
DQG VDWLVIDFWRULOLOD WHG IRE PSZHUHQ FLHV

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7KLV FRXUVH LQWURGXFHV :RUOGZLGH :HE&RQVRUWL
,QWHUQHW DPLQJ XVLQJ EQGXVWU\ VWDQGDUGV LQFOXGH -DYD
PDUNXS HOHPHQWV VW\OHVKHHWV YDOLGDWLRQ DFFH
FRPSOHWLRQ VWXGHQWV VKRXOGEE HDEOHVHXWRQGHYHORF
PDUNXS VWDQG DUGV

:(% :HE 'HYHORSPHQW 7RRO)
3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH SURYLGHV DQ LQWURGXFWLRQ WR ZHE
FUHDWLQJ ZHEVLWHV XVLQJ ZHE GHYHORSPHQW WRROV
VWXGHQWV VKRXOG EH DEOHWR DQDO\VH DQG FUHDWH
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3UHUHTXLVLWHV
&RUHTXLVLWHV
7KLV FRXUVH LQWURGXFHV VWXGHQWV WR SURJUDPPLQ
UHODWHG WR PRELOHDSSOLFDWLRQV7RSLFHYLFH FDSD
VWDQGDUGV RSHUDWLQJ V\VWHPV DQG SURJUDPPLQJ
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EDVLF DSSOLFDWLRQV IRU$ PRELOH GHYLFHV

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3UHUHTXLVLWHV
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7KLV FRXUVH LQWURGXFHW LYGWXGHQWV WKHRE VWHUL
ODQJXDJH 3+3 (PSKDVLV LV SODFHG RQ SURJUDPPLQJ
G\QDPLF ZHEVLSDJH3+3 XVFULSWLQJ ODQJXDJH IHDWXUHV 8
VKRXOG EH DEOH WR GHVLJQ FRGH WHVW GHEXJ DQ
3+3 VFULSWLQJ O$SDQJXDJH

:(% :HE 'HVLJQ)
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7KLV FRXUVH LQWURGXFHV LQWHUDFWLYH GHVLJQ WHFKQLTXHV DQG WRROV
LQFOXGH FXVWRPHU H[SHFWDWLRQV DGYDQFHG PDU
XVDELOLW\ DQG DFFHVVLELOLW\ SUDFWLFHV DQG W
8SRQ FRPSOHWLRQ VWXGHQWV VKRXOG EH DEOH WR HPSO
FUHDWH KLJK LPSDFW:HEVLWHV DQG WKHLU IXQFWLRQDO

:(% 6RFLDO 0HGLD 6
3UHUHTXLVLWHV
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7KLV FRXUVH LQWURGXFHV VWXGHQWV WR VRFLDO PHGLD PDUNHWLQJ VWUDWHJ\ EUDQG SUHVHQFH
WHFKQLFDO ZULWLQJ 8SRQ FRPSOHWLRQ VWXGHQW
PHGLD SODWIRUPV DV SDUW RI D ZLGHU NQRZOHGJH

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%RDUG RI 7UXVWHHV

*HRUJH : /LWWOH &KDLUPDQ
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-RVHS&KOHQLGH 6HFUHWDU\
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3LQHKXUVW 1& 3LQHKX1&VW
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-HVVLFD /RFNOHDU &XUULFXOXP&XUULFXOXP
.LPEHUO\ 0F0LOODQ $VVRFLDWH 'HDQ RI ,QV
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%DEE -DFNLH 0 3URJUDPPH2IILFHU 3URGXFWLRQ
$ $ 6 6DQGKLOOV &RPPXQLW\ &ROOHJH 3UHVE\WHUL

%DVLQJHU 6KHOE\ 4 3URJUDPRUGLQDWRU +HDOWK DQG
% $8QLYHUVLW\ RI 1RUWK &DURLQD DW &KDSHO +LOO

%OHYLQV +LODULH % 3URJUDPRUGLQDWRU /DQGVFDSH
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+DWOH\ 0LFKHOOH &KDLU 6FLHQFH &RQVRUWLXP RI :HVW 7H[DV
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+DZNLQV 5RQGD 5 (DUO\ &KLOGKRRG (GXFDW
$ 6 &RUQLQJ &RPPXQLW\ &ROOHJH % 6 6W -RKQ)LV
8QLYHUVLW\

+HGJSHWK $PDQGD 1XUVLQJ
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&DSHOOD 8QLYHUVLW\

+HQFNHO .ULVWLQD ' 0 $ 0XVLF
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% $ 0 $ 1RUWKZHVWHUQ 8QLYHUVLW\ 0 6 7H[DV 6WDWH 8QLYHU
7HQQHVVHH& å 0O€@ QLYHUVLWQ '™` $ à2dŽ¼™o HP B730

-RKQVRQ ;DYLHU 0DWKHPDWLFV
% 6 1RUWK &DUROLQD 6WDWH 8QLYHUVLW\ 0 $:DN

-RQHV .HYLQ /D\WRQ &ROOLVLRQ 5HSDLU7HHDQGRDHRL\QL
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6KHHWV 6XVDQ &RRUGLQDWRU 7HDFKHU3UHSDUDWLRQ
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6KHLILHOG 0D3WUKLHZR RUGL&QDYLURQPHQWDO 7HFK
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% 6 1RUWK &DUROLQD $ 7 8QLYHUVLW\ 0 6 &HQW

7UHYDUURZ +HDWKHU 6 3V\FKRORJ\
% $ 8QLYHUVLW\ RI 0LFKLJDQQQUERU 6WDWH 8

7XUQHU /DXUD 0DVVDJH 7KHUDS
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9DQ 3HOW &UDLJ 3K ' 6RFLRORJ\
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9DQGHQ 2HYHU $LPHURJDP &RRUGLQDWRU 0HGLFDO /DER
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9HOi]TXH]DWLFHOL <DPLO 6SDQLVK
% $ &DWKROLF 8QLYHUVLW\ RI 3XHUWR 5LFR 0 6 $
*UDGXDWH &HUWLILFDWH 8QLYHUVLW\ RI 1RUWK &DUR

9HQWROD 0LFKDHO : /DQGVFDSH *UDGHQ
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9RLJW -XOLH $ 6RFLRORJ\
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:KLWHVHOO .ULVWL 0 *HQHUDO3UDFWLFH&RXQVHOLQJ\
% 6 8QLYHUVLW\ RI 1RUWK$&DUROLQD8QLYHUVLW\&HQWHUIRU'HYHORSPHQW
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% $ 0 $ 7 LQ (QJOLVK (GXFDWLRQ 8QLYHUVLW\ RI 1

:LOOLDPV /H&RH (3URJUDPRUGL5HDSRUDWRU\ 7KHUDS
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:LOOLDPWHIDQLH &OLQLFDO &RRUGLQDWRU (PHUJHQF\
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5LFKDUG 1 /HZLV -U
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6FLHQFH
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(QJOLVK DQG +XPDQ
6RFLDO%HKDYLRUDO 6FLH
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6FLHQFH
3XEOLF 6HUYLFH
7UDQVSRUWDWLRQ 6
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1XUVLQJ
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6RFLDO DQG %HKDYLRUDO
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7D\ORU 0DUWLQH] 6RFLDO 6FLHQFHV
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&DPSXV 3ROLFH DQG 3XEOLF 6DIHW\

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5RVD$QQH0F&ROOHVWHU 6WXGHQW 6HUYLFHV +RNH &
.HOO\ 3HHOH 3URJUDP $V RDP $

7DPP\ 6WHZDUW $VVRFLDWH 'HDQ RI [illegible]

3ODQQLQJ DQG 5HVHDUFK

/LQGVH\ )DUPHU 'HDQ RI 3ODQQLQJ DQG [illegible]
5HEHFFD *UDKDP 'DWD DQDJHPHQW $QDO\VW
6WHSKDQLH 0LOOHU 5HVHDUFK DVVRFLDWH $QDO\VW

6WXGHQW 6HUYLFHV

.HOOLH 6KRHPDNH 9LFH 3UHVLGHQW 6WXGHQW 6HUYLFH
.LPEHUO\ $OLDJR $GPLVVLRQV $VVRFLDW
-HDQ %OXH 'LUHFWRU RI [illegible]
-DPL 'DQGULGJH $VVRFLDWH 'LUHFWRU :RUN\
'U'-)DUPHU $VVRFLDWH 9LFH 3UHVLGHQW 6HUYLFH
-HQQLIHU)LHOGV $VVLVWDQW $VVLVWDQW WR WKH 93 D
/DXUD)O\QQ $VVLVWDQW 'LUHFWRU 5HJLVWUA
/LQGD)RZOHU 5HFRUGV DQG 5HJLVWUDWLRQ
6DUDK)ULFN)LQDQFLDO $LG $VVRFLD
-RQDWKDQ *DUULVRQ'LUHFWRU RI WKH 6DQGKLOOV 3URPLV
&DU\ *UHHQH 'LUHFWRU RI 6WXGHQW 6HUYLFHV
7RQHOL +DFNHWW :HOOQHVV 6SHFLDOL
7LPRWK\ +XQW 'LUHFWRU RI &RQWHQW IRU :HOOQHV
$SULO ,NHU $GPLVVLRQV $VVRFLDW
.DWK\ /LHV 6WXGHQW 6XFFHVV &RDFK
.DUHQ 0DQQLQJ 'LUHFWRU RI 0DUNHWLQJ DQG 3XE
5RVD 0F$OLVWHU'LUHFWRU RI 6WXGHQW 6HUYLFHV 2SHUD
.HOOL 3VWHU 0DUNHWLQJ &RRUGLQDWRU
%UDQGL 3KLOOLSV 'LUHFWRU RI /LIH
-HIIUH\ 4XLFN *(5 83 6XFFHVV &RDFK
5\DQ 5LJJDQ 'LUHFWRU RI 5HFUXLWL
*ZHQGRO\Q 5XVVHOO 'LUHFWRU RI &DUHHU 'HYHORSPH
'U'DYLV 6P1KÂ-K„... R 0 'LUHFWRU RI 6WXGHQW 6X

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6DQGKLOOV &RPPXQLW\ &ROOHJH LV FRPPLWWHG WR GLVFULPLQDWLRQ EDVHG RQ UDFH FRORU UHOLJLRQ QDWLRQDO RULJLQ DJH VH[GLVDELOLW\ YHWHUDQ VWDWXV RU DQ\ RWKHU FODVVLILFDWLRQ SURWHFWHG E\ DSSOLFDEOH ODZ 6DQGKLOOV &RPPXQLW\ &ROOHJH HPSOR\V D VLQJOH ILFDQW UHVSRQVLELOLW\ SROLF\ GHVLJQHG WR HQVXUH WKH HPSOR\PHQW 6DQGKLOOV &RPPXQLW\ &ROOHJH DGPLQLVWUDWLRQ DQG VWXGHQWV DUH IUHH WKDW HQVXUH WKDW VWXGHQW DQ\ IDFXOW\ VWDII RU QDWLRQDO RU HWKQLF RULJLQ DQFHVWU\ DJH RU KDQGLFDS VH[RU JHQGHU JHQGHU LGHQW

&LYLO 5LJKWV $FW RI

6DQGKLOOV &RPPXQLW\ &ROOHJH FRPSOLHV ZLWK
ZKLFKRSLELWV GLVFULPLQDWLRQFRQWKHUEDVLV
QDWLRQDOVHRXDOLRUIQWDWLRQQ SQGJHQGHUGQG
DFWLYLWLHV

$JH 'LVFULPLQDWLRQ LQ (PSOR\PHQW

6DQGKLOOV &RPPXQLW\ &ROOHJH FRPSOLHV ZLW
(PSOR\PHQW $FW RI $'($ ZKLFK SURWHFWV
HPSOR\HHV \HDUV RI DJHQDQGLRQGHUWKHPE
LQ KLULQJ SURPRWLRQV WHUPLQDWLRQ DQG
DQGUHWLUHPHQW FRQGLWLRQV DQG

$JH 'LVFULPLQDWLRQ $FW RI

6DQGKLOOV &RPPXQLW\ &ROOHJH FRPSOLHV ZLWK
ZKLFK SURKLELWV GLVFULPLQDWLRQ RQ WKH
DFWLYLWLHV UHFHLYLQJ IHGHUDO ILQDQFLDO DVV
DJHV SHUWDLQLQJ WR WKH HWDLQ DJH GLVWLQFWLRQV DQG
PHHW WKH $FW V UHTXLUHPHQWV

2FFXSDWLRQDO 6DIHW\ DQG +HDOWK

6DQGKLOOV &RPPXQLW\ &ROOHJH FRPSOLHV ZLWK
DQG +HDOWK $FW RI 7KH3/&ROOHJH VKDOO FRP
RFFXSDWLRQDO VDIHW\ DQG KHDOWK VWDQGDUGV
LVVXHG SXUVXDQWLWWR GHYHORSHG SURORF WKH S
LPSOHPHQWDWLRQ RI WKH $FW

+HSDWLWLV % 9DFFLQH 3ROLF\

6DQGKLOOV &RPPXQLW\ &ROOHJH FRPSOLHV ZLWK
FROOHJH HPSOR\HHV ZKR PD\ HQFRXQWHU RFFXSDW
WKURXJK FRQWDFW ZLWK EORRG DQGDWRQHRWKHU E
WKH +HSDWLWLV % YDFFLQH

7LWOH; RI WKH (GXFDWLRQDO $PHQGPHQ

6DQGKLOOV &RPPXQLW\ &ROOHJH FRPSOLHV ZLWK
$PHQGPHQWV R8 6 & † HW VHT D³7LWOH;WKD
QR VWXGHQWVKDOO RQ WKH EDVLV RI V
SDUWLFLSDWLRQ LQ EH GHQLHG WKH EHQHILWV
GLVFULPLQDWLRQ LQ DQ\ SURJUDP RU DFWLYLW\ I
WKH UHTXLUHPHQWV RI 7LWOH,;PHQGPHQWVWKR(GXFD
6DQGKLOOV &RPPXQLW\ &ROOHJH HQVXUHV HTXDO
VWXGHQWV DQG HPSOR\HHV IHPDOH RU PDOH

GLVFULPLQDWLRQ RU VH[XDO KDUDVVPHQW LQ WKH
,QFLGHQW UHSRUW WKLW WS ZZZ VDQGSRLQWVFKRROV
WKSHV VRFLDWH 9LFH 3UHVLGHQW (PHF[XWLYH 59LF
3UHVLGHQW WHQWV RFLDWH 9LFH 3UHVLGHQW WHQW
'RGVRQ ORFDWHG LQ 6WLRQHW KDOG7LVWULQHW
&RRUGLQDWRU IRU 6DQGKLVG&SDUXQLW\&R
5HVRXUFHV PD\ EH UHDFK E\ HPDLO DW VFFKU#

6HFWLRQ WKH 5HKDELOLWDWLRQ $

6DQGKLOOV &RPPXQLW\ &ROOHJH SURYLGHV HT

- 7KH UWLRKWKDOOHQJH WKH FRQWHQWKVFKRI WKHL DUH EHOLHYHG WRRLEWHDQGLFJXURWLQ YLROD VWXGHQW¶V SULYDF\ ULJKW XQGHU)(53$
- 7KH UWJRKWDYH D KHDULQJ KHI WKDOHRXQFRPL XQVDWLVIDFWRU\
- 7KH UWLRKWXEPLW H[SODQDWRU\ VWDWHPHQWV LI WKH\ IHHO WRRWKH DWWKH HGHFLQJLSQHO DUH
- 7KH ULJKW WR ILOH D FRPSODLQW ZLWK WKH)DPLO\ 3ROLF\ &RPSOLDQFH 2IILFH 8 6 'HSD 0DU\ODQG $YHQXH 6: :DVKLQJWRQ '& DOOHJHG IDLOXUHWLWEXWLRQH ZLRVKFR3 UHTXLUHPHQWV
- 7KH ULJKW WR SURYLGH ZULWWHQ SHUVRQDOLVHQW

7KLUG 3DUWLHV ([HPSW IURP &RQVHQW 5HTXLU
7KH &ROOHJH GRHV QRW SURYLGH DFFHVV WR
UHFRUGV WR WKLUG SDUWLHV RWKHU WKDQ WKRVH
RI

- $XWKRUL]HG SHUVRQQHO ZLWKLQ WKH DGPLQLVWUDWRUV IDFXOW\ DQG VWDII HGXFDWLRQDO LQWHUHVW VHHNLQJ WR IX
- $XWKRUL]HG UHSUHVHQWDWLYHV RI HQURO
- 3HUVRQV RU RUJDQL]DWLRQV SURYLGLQJ
- $FFUHGLWLQJ DJHQFLHV FDUU\LQJ RXW WK
- 3HUVRQV LQYROYHG LQ DQ HPHUJHQF\ VLV KHDOWK DQG VDIHW\ RI VWXGHQWV RU RI RWKHU
- 3HUVRQV LQ FRPSOLDQFH ZLWK D MXGLF VXESRHQD
-)HGHUDO VWDWH DQG ORFDO DXWKRULWLH RI FRPSOLDQFH ZLWK HGXFDWLRQDO SURJ
- 2UJDQL]DWLRQV [GHVLJQDWHG WR FRQGXFW E HKDOI R
- 3DUHQWV RI D GHSHQGHQW VWXGHQW DV SXUSRVHV
- 'LUHFWRU\ LQIRUPDWLRQ E HLQJ
- $Q DOOHJHG YLFWLP RI [RU\FLUHFOHHQWH [ZKRP WKH UHVXOWV RU LQJ GLVFLSOLQDU\ SURFHHGLQJV
- 3DUHQWV RI D VWXGHQW UHODWHG WR WK 6WDWH ORFDO RU LQVW6s QTÀHWQ@)H KOWW

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(DFK HPSOR\HH RU VWXGHQW LV UHTXLUH
ZULWLQJ ZLWKLQ WKH VFRSH RI DFWLYLWLHV RU GXWLHV
DQ\ IHGHUDO VWDWH RU ORFDO FULPLQ
YLRODWLRQ RFFXUUHG ZKLOH LQ WKH ZRU
SDUW RI DQ\ SHUVRQ RU DFWLQJ DW
RI JXLOW LQFOXGLQJ EXW QRW
VHQWHQFH E\ D MXGJH RU MXU\ LQ DQ\ IHG
ORVH IHGHUDO VWXGHQW DLG HOLJLELOLW
LQVWLWXWLRQ RI KLJKHU HGXFDWLRQ WKH
VWXGHQW FDQ UHJDLQ HOLJLELOLW\
&RQYLFWLRQV RI HPSOR\HHV ZRUNLQJ XQG
GUXJ ODZV LQ WKH ZRUNSODFH RQ FROO

SXEOLF DJHQF\ SDUWQHUVKLSV DUH RIWHQ IRUPHG WR SURYLGH
FRQVLGHUHG WR EH HPSOR\HHV RI WKH &ROOHJH
&ROOHJH DQG WKH RUJDQL]DWLRQ VSHFLILHV WKD
EH WKH HPSOR\HU

(GXFDWLRQDO 3URJUDPV 7KH &RXQFLO HVWDEOLVKHV D
RSSRUWXQLWLHV IRU VWXGHQWV WR OHDUQ PRUH
DEXVH

- $QQXDO ZULWWHQ QRWLILFDWLRQ GXULQJ UHJ
- RI WKH FROOHJH QJSRROLFRKRROQDHQGQXEVWDQFH
- $ YDULHW\ RI VSHFLDO HYHQWV VSHDNHUV Z
- DGGUHVV FXUUHQW LVVXHV DV UHODWHG WR D
- $FDGHPLF FRXUVHV LQ KHDOWK SK\VLFDO HGX
- $FDGHPLF FRXUVHVHSUHYGHUXWLDEQ FKHPLFDO GH
- IDPLO\ WKHUDS\
- $FDGHPLF FRXUVHV LQ VWXGHQW VXFFHVV

&RXQVHOLQJ ,QIRYGLGVLWRQV WR SURYLGLQJ FRXQVH
DOFRKROHGDWJHG SUREOHPV E\ PHPEHUV RI WKH
6WXGHQWV6HUYLWKRQ&ROOHJH DOVR SURYLGHV WKH
WR WKRVH ZLWK DEXVH LVVXHV

- x 5HIHUUDO UHVRXUFH IRU VWHXGHQWVHRWQVHHLQJ
  KRVSLWDOL]DWLRQ
- x 6FKHGXOHV IRU DUHD PHHWQJVSRUWV JUSRXSV
- x 6FKHGXOH $RQPHFEWSXJ XSRQ UHTXHVW
- x 0DWHULDOV IRU GLVVHPLQDWLRQ RQ UHODWHG

6WXGHQWWRFLRJKWWKH &DPSXV &ULPH DQG $FW DQG W&OHH-UHDQFWH

6DQGKLOOV &RPPXQLWRP&RHOHJHZLWK WKH GLVFO
UHSRWLQJ UHTXLUHPHQWVRRZKW6W&DPSXV 3ROLFH
6HFXULW\ $FWDQG WKH -HDQQH &OHU\ $FW D
DQG 7KHVH UHTXLUHPHQWV LQFOXGH JUDGXDWLR
VHFXULW\ SROLFLHV DQG SURFHGXUHV DQG VWD
7KH -HDQQH &OHU\ $FW UHTXLUHV DQQXDO GLVT
YLFWLPV RI FDPSXV VH[XDO DVVDXOW FHUWDLQ
FRPSOLDQFH ZLWK WKLV $FW

7KH 6&& VH[XDO DVVDXOW SROLF\ LV GHWDLOHG L
&DWDODQR &ROOHJH SROLF\ DQG 3URFHGXUHV0DQXDO
DW ZZZ VDQGXKLOOV6WHGXIRUPDWLRQ RQ&RQVHQW
REWDLQHG E\ FDOOLQJ
7KH &ROOHJH HQGHDYRUV WR SURYLGH DQ HQYLU
IDFXOW\ VWDII DQGUHVSRQVLEOHSURYLVLRQV RI

5LJKWWRQRZ WKH &DPSXV &ULPH DQG 6HFXULW\ $
&ROOHJH LV UHTXLUHG WR SURYLGH LQIRUPDWL
GHILQHG E\ WKH $FW WKDW KDYH RFFXUUHG
RI WKH FROOHJH¶V DQQXDO UHSRUW RQ WKLV V
VWXGHQWV SRWHQWLDO VWXGHQWV DQG RWK
LQYLWHG WR FDOO WKH &DPSXV 3ROLFH DQQXDO VHF
DOVR SXEOLVKHG RQOLQH DW ZZZ VDQGKLOOV HGX

9LROHQFH $JDLQVW :RPHQ $FW DQG W (OLPLQDWLRQ 6D9($FW

7KH &ROOHJH FRPSOLHV ZLWK WKH 9LROHQFH $
UHDXWKRUL]HDQG LQWKH 6$9($FW LQ SURY
DZDUHQHVV RI WKHVH DFWV ³6D9(UHTXLUH V W
GDWLQJ YLROHQFH VH[XDO DVVDXOW DQG VW
FULPH VWDWLVWLF UHSRUWV $GGLWLRQDOO
YLFWLP

x %H DVVLVWHG ES+ÂP4T`pÀL TVWLL Â– HG

&RQVWLWXWLRQ DQG &LWL]HQV

2Q 6HSWHPEHU RI HDFK \HDU RU DW WKH ILU
RQ D ZHHNHQG KLOOV &RPPXQLW\ &ROOHJH FRPP
VLJQLQJ RI WKH 8QLWHG 6WDWHV &RQV
HGXFDWLRQDO SURJUDPV IRFXV DQG VWD
LQLWLDWLYH LV 7”G–÷$PmDWHV

UHVSRQVH WR WKH DFDGHPLFFH UR UX QDGGHPUL QZLKVRW
SXUYLHZ WKH FRPSODLQW LV GLUHFWHG
,Q VXFK FDVHV WKH DGPLQLVWUDWLYH RIILF
SURYLGH D ZULWWHQ UHVSRQVH WR WKH FRI
UHFHLYLQJ WKH FRPSODLQW DGGUHVVLQJ WI
RII@Ð0QJ W0 HVS R Q ODLQI

RI KLJKHU HGXFDWLRQ WKDW SDUWLFLSDWHV I
SUHSDUH DQ ($'$ UHSRUW E\ 2FWREHU ,QVW
WKH 8 6 'HSDUWPHQW RI (GXFDWLRQ RU WKH
VXUYH\

'DWD FROOHFWHG LQ WKLV VXUYH\ ZLOO EH SXE
(GXFDWLRQ RQ WKH 'DWD $QDO\VLV DQG
ORFDWH RU GRZQORDG HG JRY DWKOHWLFV

($'$ DQG 7LWOH ,; &RPSOLDQFH

7KH GDWD FROOHFWHG LQ WKLV VXUYH\ DUH S
ZLWK WKH ($'$ QDPH DQG WKH VDPH DV GDWD X
FRPSOLDQFH ZLWK RWKHU)HGHUDO RU VWDW
(GXFDWLRQ $PHQGPHQWV RI

7KH FRPSLOHG GDWD IRU WKH PRVW UHFHQW D
ZHEVLWH VR WKDW
WR 6&& FRPSOLDQFH LW LV

7KH 8QLIRUPHG 6HUYLFHV (PSOR\PHQW 5LJKWV $FW RI 86(55$ 8 6 &

7KH 8QLIRUPHG 6HUYLFHV (PSOR\PHQW DQG 5HH
ZDV SDVVHG E\ 8 6 &RQJUHVV DQG
&OLQWRQ RQ 2FWREHU WR SURWHFW WKH
UHVHUYH PLOLWDU\ SHUVRQQHO LQ WKH 8QLWH
LV D IHGHUDO VWDWXWH WKDW SURWHFWV VH
HPSOR\PHQW

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