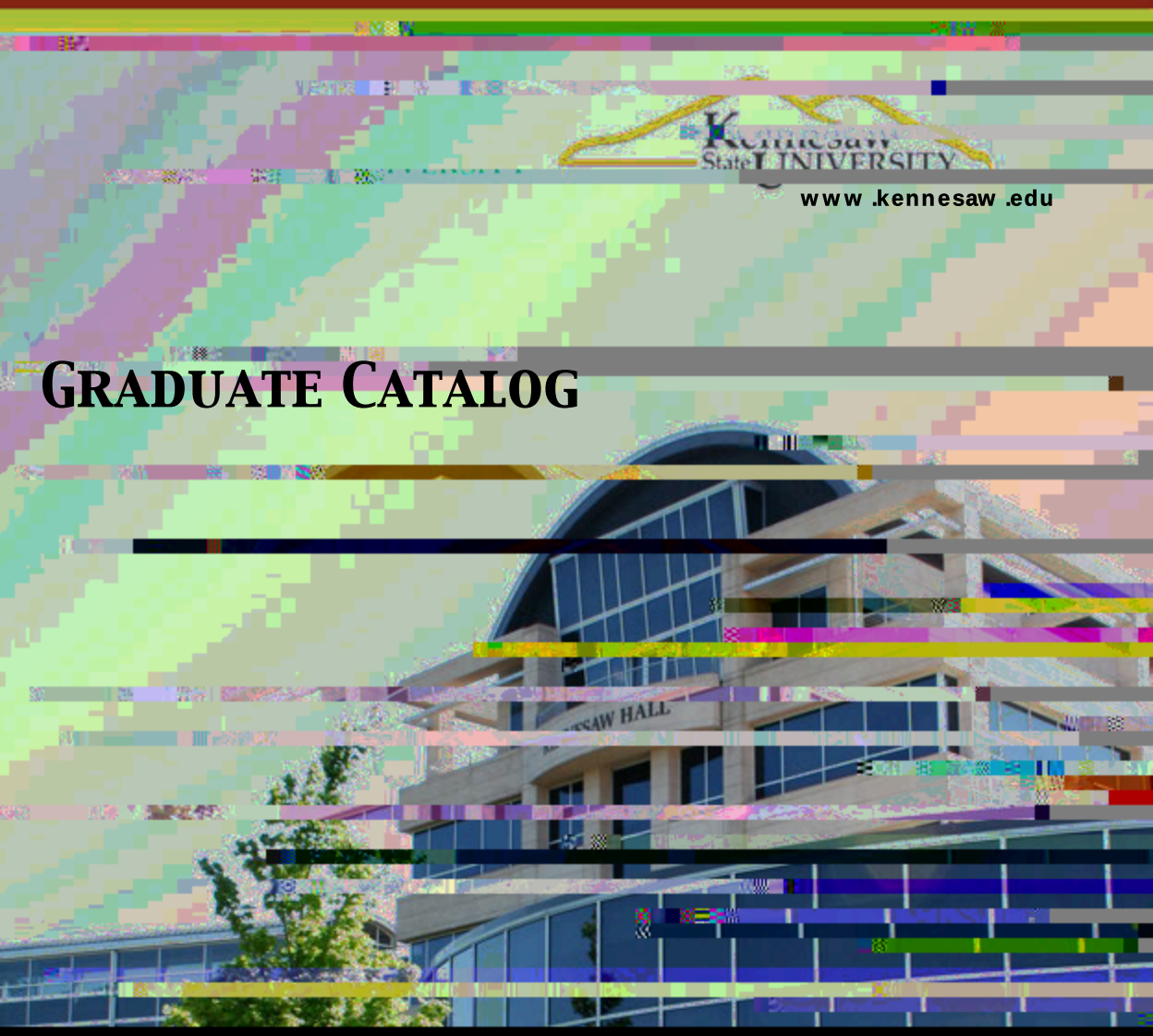

Kennesaw State University

www.kennesaw.edu

Graduate Catalog

This catalog was prepared in the Fall of 2010. The material presented is for informational purposes only and should not be construed as the basis of a contract between a student and this institution.

While the provisions of this catalog will ordinarily be applied as stated, Kennesaw State

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Welcome from the President

Dear Students:

Welcome to Kennesaw State University! You are attending a þne university, and during the course of this and upcoming years, it will become even better. KSUõs faculty, staff, and administration are committed to excellence in everything we do, and I am sure that you, as a student, are also committed to excellence.

Over the years, Kennesaw State has grown from a small two-year institution to what it is today ñ a comprehensive university with more than 20,000 students offering bachelors, masters, and doctoral degrees, and a host of programs centered on students, student life, and student learning. KSU is now a destination campus, and an exciting place to be.

At both the undergraduate and graduate levels, KSU is þrst and foremost a learning community, a diverse body of people of all ages, each of whom is striving to learn and to understand more about himself or herself, the world, and the many activities and endeavors that humans pursue. During your time here at Kennesaw State, you will discover many things about yourself and your world, and you will grow in ways you never imagined as you improve your capabilities and skills. I wish you well in your journey of discovery and growth.

KSU has also long prided itself, and rightfully so, on being an engaged learning community. Kennesaw Stateõs students, faculty, staff, and administration are engaged with each other, learn from each other, and help each other learn. Members of the KSU family are also engaged with the world beyond the campus, playing a large and growing role in business and industry, government and public affairs, and the service and support sectors, both as leaders and as active participants.

Again, welcome to Kennesaw State! I am pleased that you have chosen KSU as your university, and we all look forward to helping you learn, and to learning from you.

Sincerely,

Daniel S. Papp
President

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Business Law
Chemistry
Chinese Studies
Coaching
Criminology
Dance
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June 4
Final Grades Due, 10:00 a.m., May Session
June 7
First Day of Classes: Six Week Session
Drop / Add (in person in the Office of the Registrar): Six Week Session
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Holiday – NO CLASSES
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Last Day of Classes: Six Week Session
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Final Exams: Six Week Session

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Four Week Session II
Eight Week Session
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May 14
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July 1
Last Day to Petition to Graduate for Fall Semester 2010
July 19 - August 4
Early Registration Continued

August 4
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August 11 - 12
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Drop / Add
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Final Exams
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July 30
Payment Deadline
July 31
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August 3
Last Day to Withdraw Without Academic
First Day of Classes

January 5 - 6

About Kennesaw State

KSU Today

Kennesaw State University, one of the fastest-growing members of the University System of Georgia, offers high-quality education to students throughout metro-Atlanta and northwest Georgia.

To meet the needs of todayõs students, Kennesaw State offers day, evening and weekend classes on its spacious suburban campus. Both traditional and nontraditional students will þnd programs of study to þt their lifestyles and interests.

Kennesaw Stateõs mission of education and service will grow with northwest Georgia. Providing the leadership in this mission is President Daniel S. Papp, former senior vice chancellor for the University System of Georgia.

Accreditation

Kennesaw State University is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award bachelorõs, masterõs, specialist and doctoral degrees. Inquiries related to the universityõs accreditation by the Commission may be directed to COC/SACS, 1866 Southern Lane, Decatur, Georgia 30033-4097, telephone 404-679-4500, Website: http://www.sacscoc.org. Questions related to admissions and the policies, programs, and practices of KSU should be directed to the universityõs ofþces, catalogs, publications, or websites.

The Commission on Colleges of the Southern Association of Colleges and Schools (COC/SACS) is the recognized regional accrediting body in eleven U.S. Southern states and in Latin America for institutions of higher education that award associate, baccalaureate, masterõs or doctoral degrees.

Graduate Admission

Graduates holding a baccalaureate degree from colleges or universities accredited in a manner accepted by Kennesaw State University may apply for admission to the Graduate College. Applicants must submit the credentials deemed necessary by the chosen degree program. Individual colleges may have additional requirements or higher standards than those listed for general admission. Applicants are accepted to one graduate program speciþcally and must reapply in order to change programs.

Requirements for admission to individual graduate programs are listed within each program section of this catalog.

non-refundable $60.00 application fee and you will receive a conþrmation message indicating that your application has been submitted.

Å Schedule the graduate entrance exam required for your program (consult program information). To insure adequate time for processing, the Ofþce of Graduate Admissions recommends you take the exam six weeks prior to the application deadline. The scores are reported directly to the Ofþce of Graduate Admissions when you select Kennesaw State University on the exam registration menu. Ofþcial test results must be received before your þle is considered complete; however, a photocopy of your personal test report may be submitted to verify that the exam has been taken. Some departments may use this unofþcial report for review purposes and may admit applicants contingent upon receipt of ofþcial scores.

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Computer Based (CBT) ð 213; Internet Based (IBT) ð 80; or a score of 6.0 on the International English Language Testing System (IELTS) test. The TOEFL or IELTS will be waived for any applicant who has graduated from a college or university in the United States accredited in a manner accepted by Kennesaw State University or is from one of the following countries: Australia, Bahamas, Barbados, Belize, Canada, Dominica, Ghana, Guyana, Ireland, Jamaica, Liberia, New Zealand, Sierre Leone, South Africa, Tobago, Trinidad, United Kingdom, United States or Zimbabwe.

International applicants who are requesting an I-20 for an F-1 visa must submit an afþdavit of support from the sponsor and a certiþed þnancial statement from the sponsorôs bank showing that funds are available for one year of study. Students must have a valid passport and must be in current, valid immigration status in order to enroll at Kennesaw State University.

Graduates of foreign schools of higher learning must be able to document the fact that their degree is the equivalent of a four-year bachelorôs degree awarded by an accredited United States college or university. International applicants, regardless of their country of origin or their native language, must have their foreign credentials evaluated by an independent evaluation service that is a member of the National Association of Credential Evaluation Services, Inc (http://www.naces.org/members.htm). Each evaluation must include the following: course-by-course description, equivalence to an accredited four-year U.S. undergraduate degree (or number of years toward completion), and grade point average. (See http://www.kennesaw.edu/graduate/admissions/intllinks.html for a list of accredited evaluation services.)

Include the following in your application packet: a copy of TOEFL scores, immigration documents, and an original ofþcial evaluation of foreign credentials (in a sealed envelope).

Any graduate student who has a break in attendance of two calendar years or more, must apply for readmission to the graduate program by completing the Online Graduate Application and submitting it to the Ofþce of Graduate Admissions. The application and a $60.00 nonrefundable application processing fee must be received by the established deadline for the semester of re-enrollment. Complete the online application at http://www.kennesaw.edu/graduate/admissions/forms.html or in the Ofþce of Graduate Admissions. If the student has taken course work at another institution during the period of non-enrollment at KSU, the course work may be considered as transfer credit and, upon receipt of an ofþcial transcript, reviewed accordingly. All students requesting readmission to the MBA or MAcc programs must meet the admissions criteria (GMAT sion0.00 criterplicatith y l ᵀ ʌ ʊ ᴀ ˬ ʊ ῶ ɣ ˡ ! sion di ᶠ ʻ " diE ɕ ˗ ˢ ɥ l ᴰ ɣ ᴰ ᴛ

Tuition, Expenses, & Financial Aid

Expenses include in-state tuition, out-of-state tuition, student services fees and other special fees. All fees are due and payable at the time of registration, and registration is not complete until all fees have been paid.

Cash, checks, and money orders drawn on U.S. banks and payable in U.S. dollars are accepted. Electronic checks and credit cards will only be accepted on the web. Payment by credit card will incur an additional convenience fee charged by a third party credit card processor.

The University reserves and intends to exercise the right to withhold copies of transcripts and other student education records and / or to withdraw students who have unpaid or past due fee balances.

Students are required to pay in-state tuition and, when applicable, out-of-state tuition, for enrollment in all courses even if no credit is earned.

All tuition charges or other charges are subject to change at the end of any academic term.

Graduate students enrolled for less than twelve semester hours are considered part-time students for fee schedule purposes and are charged an in-state tuition of $225.00 for each credit hour of course work. The total in-state tuition for full-time students (those registered for 12 credit hours or more) is $2,693.00.

Graduate students who are not residents of Georgia and who register for 12 or more credit hours are required to pay an out-of-state tuition fee of $9,749.00 per semester in addition to all other regular fees. Nonresident students registered for fe tal

A $50.00 parking permit fee is assessed separately and is optional if you are a student who does not drive to campus and has no need for a parking space. To opt-out of the parking permit fee, bring the hangtag or decal to Card Services. All vehicles used on campus must display a valid KSU parking decal. Vehicles without a valid decal will be ticketed and/or booted.

Each student is issued one parking decal that is transferable from car to car.

New decals are issued annually to campus residential students. All other parking decals are valid for the duration of your official status with KSU. The Card Center will notify campus via the KSU furnished e-mail when decals are available to new students and employees for in-person pickup. The parking decal is registered to a student who is responsible for any use of this decal until it has been reported lost and/or stolen.

Replacement parking decals are available and are usually subject to fees. One day passes are available as appropriate at the Card Services Center in the Carmichael Student Center, Suite 219.

It is the responsibility of all KSU students to review and abide by Kennesaw State Univer-

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Off Campus Course Fees: Students taking courses at the Cobb Galleria are charged an additional fee per course to cover facility rental.

NOTE: These fees will be listed in the Schedule of Credit Courses and are subject to change without notice.

The cost for the 18-month program is $52,500. This fee includes a nonrefundable deposit of $500 which is due upon acceptance to the program. The remaining $52,000 is prorated over the entire program. Meals, textbooks, notebook computer, retreat and the International Residency for Experienced Professional Program are included.

The cost of the Georgia WebMBA is $19,350, which includes tuition for ten courses and a one-credit hour mandatory two-day orientation. This does not include books or travel and lodging for the orientation. All costs are subject to change without notice.

The cost of the program is $25,225, which includes tuition, fees, books and class materials, meals on class weekends, travel to an international conference, membership in a professional organization and a subscription to an ADR journal. The cost includes a non-refundable reservation fee of $500 which is due upon official notification of acceptance in order to reserve a place in the program. NOTE: Insurance premiums associated with insurance required by the University for all international students are not included in the cost of the program.

All MSCM applicants are encouraged to apply for financial aid in the event of an emergency that could prevent fulfilling their commitment to the program.

See the Master of Science in Conflict Management section of this catalog for further details on deadlines and fees.

The cost of the WellStar Primary Care Nurse Practitioner Program is $15,050, paid over four semesters. The following is tuition by semester, effective 07/01/2009:
Fall Semester: $3,788
Spring Semester: $3,788
Summer Semester: $3,634
Final Fall Semester: $3,840

Tuition includes in-state graduate tuition; mandatory student fees; parking permit; and program enhancements and other premium features, including a PDA and its appropriate software; malpractice insurance premiums, drug screen and background check associated with requirements by the University for clinical experiences; pre-Boards prep course; certification exam; orientation and customized program advisement and clinical placement.

NOTE: Books, lab fees, and mandatory graduate student health insurance are not included in the cost of the program. All costs are subject to change without notice.

The MSACS Premium Program includes premium features that enrich the student's education with a variety of resources and experiences. The cost of the program is $5500 per semester over five semesters for a $27,500 total. This tuition includes fees, books and class materials, access to lectures using distance learning technology, recorded lectures, a graduation banquet and hooding ceremony, and other premium features currently including a laptop, PDA, digital

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Diploma Fee: A diploma fee of $35.00 is required of all degree candidates and is payable at the time a petition to graduate is presented to the registrar. The fee is nontransferable and nonrefundable. It entitles the student to one diploma.

Diploma Replacement Fee: When a request is received to reorder a diploma (lost in fire, move, etc., a fee of $30.00 will be assessed. Fax Fee: Priority fee for electronic transmission (fax) of unofficial transcripts or certifications forms/letters of $10.00 per document.

Late Payment Fee: A $50 late payment fee will be assessed for tuition and fee payments received after the end of late registration and drop/add. This fee may apply at other times as well. For specifics, contact the Bursar's Office.

Late Registration Fee: Students requesting a late registration or drop/add after all official registration periods have ended will pay a late hand-registration fee of $30.00 per transaction.

Penalty Fee for Returned Check: A penalty fee of $25 will be assessed for each check returned by the bank.

Pursuant to the provisions of an amendment to the Georgia Constitution, legal residents of Georgia who are 62 years of age or older at the time of registration for courses may have their standard tuition and fees waived (with the exception of supplies, laboratory fees, and special course fees). A driver's license or birth certificate must be presented to the Office of Graduate Admissions at the time of application for admission or to the Registrar's Office once the individual turns 62 to qualify for this waiver of registration fees.

Individuals 62 and over wishing to enroll in one of Kennesaw State's Executive Programs (the Coles Doctor of Business Administration, the Coles Executive MBA, the Master of Science in Conflict Management, the Master of Science in Applied Computer Science or the Georgia WebMBA) will be required to pay all costs of these programs in excess of standard graduate program tuition and fees.

To withdraw from one or more classes, students must complete an official withdrawal form in the Office of the Registrar. Students withdrawing from classes before the end of late registration and drop/add registration will receive a 100% refund. These withdrawal/refund policies do not apply to KSU's Executive Programs.

The refund amount for students withdrawing from the institution shall be based on a pro rata percentage determined by dividing the number of calendar days in the semester that the student completed by the total calendar days in the semester. The total calendar days in a semester includes weekends, but excludes scheduled breaks of five or more days and days that a student was on an approved leave of absence. The unearned portion shall be refunded up to the point in time that the amount earned equals 60%.

Students that withdraw from the institution when the calculated percentage of completion is greater than 60% are not entitled to a refund of any portion of institutional charges.

Students enrolled summer term who withdraw from second-session courses on the first day of those classes will receive a 100% refund. After the first day, no refunds will be processed.

Students should refer to the Schedule of Credit Courses for specific dates of each refund period.

Students who do not formally withdraw, those suspended for disciplinary reasons, and those who leave the university when disciplinary action is pending are not eligible for a refund on any portion of any fee.

A refund of all tuition and other mandatory fees shall be made in the event of the death of a student at any time during any academic semester.

Refunds will be disbursed by the university's internet bank partner. Students may use their KSU Debit Card to select a refund payment method: electronic fund transfer or paper check. Details are available at: http://www.ksuone.com

Subject to institutional policies, full refunds

b. A dependent student shall be classified as "in-state" for tuition purposes if either i) the dependent student's parent has established and maintained domicile in the State of Georgia for at least 12 consecutive months immediately preceding the first day of classes for the term and the student has graduated from a Georgia high school or ii) the dependent student's parent has established and maintained domicile in the State of Georgia for at least 12 consecutive months immediately preceding the first day of classes for the term and the parent claimed the student as a dependent on the parent's most recent federal income tax return.

c. A dependent student shall be classified as "in-state" for tuition purposes if a U.S. court-appointed legal guardian has established and maintained domicile in the State of Georgia for at least 12 consecutive months immediately preceding the first day of classes for the term, provided that appointment was not made to avoid payment of out-of-state tuition and the U.S. court-appointed legal guardian can provide clear evidence of having established and maintained domicile in the State of Georgia for a period of at least 12 consecutive months immediately preceding the first day of classes for the term.

(2) a. If an independent student classified as "in-state" relocates temporarily but returns to the State of Georgia within 12 months, the student shall be entitled to retain in-state tuition classification.

b. If the parent or U.S. court-appointed legal guardian of a dependent student currently classified as "in-state" for tuition purposes establishes domicile outside of Georgia after having established and maintained domicile in the State of Georgia, the student may retain in-state tuition classification as long as the student remains continuously enrolled in a public post secondary educational institution in the state, regardless of the domicile of the parent or U.S. court-appointed legal guardian

B. Noncitizens

Noncitizens initially shall not be classified as "in-state" for tuition purposes unless there is evidence to warrant consideration of in-state classification. Lawful permanent residents, refugees, asylees, or other eligible noncitizens as defned by federal Title IV regulations may be extended the same consideration as citizens of the United States in determining whether they qualify for in-state classifcation. International students who reside in the United States under nonimmigrant status conditioned at least in part upon intent not to abandon a foreign domicile are not eligible for in-state classifcation.

An institution may award out-of-state tuition differential waivers and assess in-state tuition certain nonresidents of Georgia for the following reasons (under the following conditions):

a. Academic Common Market. Students selected to participate in a program offered through the Academic Common Market.

b. International and Superior Out-of-State Students. International students and superior out-of-state students selected by the institutional president or an authorized representative, provided that the number of such waivers in effect does not exceed two percent of the equivalent full-time students enrolled at the institution in the fall term immediately preceding the term for which the out-of-state tuition is to be waived.

c. University System Employees and Dependents. Full-time employees of the University System, their spouses, and their dependent children.

d. Medical/Dental Students and Interns. Medical and dental residents and medical and dental interns at the Medical College of Georgia. (BR, 1986-87, p. 340).

e. Full-Time School Employees. Full-time employees in the public schools of Georgia or of the Technical College System of Georgia, their spouses, and their dependent children. Teachers employed full-time on military bases in Georgia shall also qualify for this waiver. (BR Minutes, 1988-89, p. 43).

f. Career Consular Offcials. Career consular offcers, their spouses, and their dependent children who are citizens of the foreign nation that their consular offce represents and who are stationed and living in Georgia under orders of their respective governments.

g. Military Personnel. Military personnel, their spouses, and their dependent children stationed in or assigned to Georgia and on active duty. The waiver can be retained by the military personnel, their spouses, and their dependent children if (a. the military

sponsor is reassigned outside of Georgia, and the student(s) remain(s) continuously enrolled and the military sponsor remains on active military status; (b. the military sponsor is reassigned out-of-state and the spouse and dependent children remain in Georgia and the sponsor remains on active military duty; (c. or active military personnel and their spouse and dependent children who are stationed in a state contiguous to the Georgia border and who live in Georgia. (BR Minutes, February 2009).

h. Research University Graduate Students.

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as a bank. Students are borrowing from the federal government; Master Promissory Note

A service charge of $10 will be added to the tuition and fees and/or the personal loan. The loan must be repaid within 45 days. If it is not repaid, a $25 late charge will be added to the emergency loan. If a student is late paying an emergency loan, the student is considered delinquent in payment and is no longer eligible for any emergency loans during their academic career at KSU. Students will not be allowed to register for the following semester if they have not repaid their emergency loan.

NOTE: Students cannot take both the emergency tuition loan and the personal loan out in the same term.

Monies for this fund have been received from the following sources:

- Geral Dean Boggs Memorial: Established by the students of Kennesaw Junior College in 1967 to honor the memory of their fellow student, Geral Dean Boggs.
- James V. Carmichael Memorial
- Phillip B. Rice Memorial: Established in memory of Phillip B. Rice
- Kennesaw State University Civitan Club
- Kennesaw State University Women's Club
- The Southwest Women's Club
- Marietta Civitan Club
- John L. Dees Memorial
- Smyrna Lions Club
- Betty H. McNiece Memorial: Established by Kennesaw College in 1984 to honor the memory of an employee, Betty H. McNiece
- Kennesaw State University Rotaract Club
- Student Activities Budget Advisory Committee

Alternative or Private student loans are different from federal student loans in that they are not guaranteed by the federal government, require a credit check, and often a co-signer. Loan approval, interest rates, and repayment requirements are prescribed by the lender. Additional information and application procedures are available from the Office of Student Financial Aid or the lender. Students must maintain satisfactory academic progress.

Graduate programs may award a limited number of Graduate Research Assistantships. Graduate Research Assistants work closely with faculty on specific projects and, in return, receive a stipend and waiver of tuition. Graduate Research Assistantships "

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and Unsubsidized), and Federal Graduate PLUS Loan. All scholarships follow the same requirements. Alternative loans, available from private lenders, also follow these requirements.

Satisfactory academic progress (SAP) includes two standards: qualitative and quantitative. Students must meet both standards to continue receiving financial aid.

In order to maintain financial aid eligibility with the qualitative standard, a student must

Academic Policies

Registration

The Ofþce of the Registrar is the central administrative ofþce responsible for registering students, maintaining the permanent academic records, administering the Regentsô Testing Program Policies and test registration, performing degree audits, enforcing the academic policies of the university and generally ensuring that studentsô academic issues are dealt with accurately and professionally. In addition, the Registrarôs staff handles transfer evaluations and Veteransô Affairs. Requests for data from the computerized student record system are approved by this ofþce.

All registration at KSU is conducted over the web through Owl Express. There are two phases of registration at KSU:

- Å Early Registration: available to students who are currently enrolled and in good standing. These students are strongly encouraged to register within the Early Registration phase.
- Å Registration: available to new, readmitted, and all currently enrolled students.
- Å A Drop / Add session is offered to all students eligible to enroll for the given semester. A Late Registration Fee of $100 is assessed to students registering during the Drop / Add period who have not previously registered for the semester. After each registration phase, fees must be paid to avoid cancellation of classes. Please refer to the Schedule of Classes located on the Registrarôs website at www.kennesaw.edu/registrar for speciþc instructions and dates. Undeclared majors must be advised by Student] ® x l M M

necessary for the course to be audited and are expected to complete all course requirements as noted on the course syllabus. A student may audit no more than 6 credit hours of graduate course work in a given term.

The permission to audit form, available in the Ofþce of the Registrar, must be submitted before the end of þnal registration. The form must be signed by the Graduate Program Director of the program offering the course to be audited. Audited courses count at full value in computing the studentõs course and fees load. The studentõs name will appear on the ofþcial class rolls of the courses audited, as well as the studentõs approved schedule of courses. No credit is granted for audited courses, and students are not permitted to change to or from an auditing status except through the regular procedures for schedule changes.

The grade for auditing is òVó (visitor), and this grade will at no time be changed to a òWó on the basis of the auditorõs attendance in the course. The grade of òVó will have no effect upon the studentõs grade-point average, and students will not be permitted to have the audit grade changed at any future date. Audited courses will not count toward degree completion for any of KSUõs gradm ę W

IP (In Progress) Grade

In most graduate courses, the grades òA,ó òB,ó òC,ó òF,ó òIó (Incomplete), òWó (Withdrawal), and òWFó (Withdrawal with an òFó) are awarded. In some graduate courses, particularly thesis, dissertation, and project courses that are intended to last more than one semester and are not completed during the semester in which the student is þrst registered for the course, the notation òIPó (In Progress) is used. A student then has to pay to enroll for a speciþed number of hours in each consecutive semester in which work is still in progress. While the work is in progress, the instructor will report a grade of òIPó for these credit hours at the end of each term. Thesis, dissertation, and project course credit hours taken during the semester that the work is completed will be awarded a grade of òSó

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(see C. above). This is not a new hearing and the person at the next higher level of supervisory rank or his/her designee will issue a written decision based only on the written record to both parties in the case, the immediate supervisor of the faculty memberõs supervisor, and the faculty memberõs immediate supervisor within thirty days. His/her decision is þnal. No further appeals are available.

L. Nothing in this grade appeal process prohibits the parties from settling this matter at any stage with the assistance of mediation through the Ofþce of University Ombuds (770-423-6112). Mediation may also address issues other than violation of stated grading policy. However, any attempt to settle the matter through mediation does not affect time deadlines for this grade appeal process.

II. GRADE APPEAL PROCEDURE WHEN THERE IS AN ALLEGATION OF DISCRIMINATORY PRACTICE(S)/RETALIATION, OR A COMBINED GRADE APPEAL.

A. If the student believes that his/her þnal grade in a course is detrimentally affected because of (1) discriminatory or harassing practice(s) on the basis of race, religion, color, sex, sexual orientation, disability, age, or national origin, or (2) retaliation by a faculty member because of the studentõs prior report of discrimination or harassment, or because of the studentõs cooperation in any investigation, he/she should þrst discuss the matter with the faculty memberõs immediate supervisor (usually the chair of the faculty memberõs department). If the faculty member is a chair then the immediate supervisor is the dean of the college, if the faculty member is a dean then the immediate supervisor is the associate vpaa or dean of the graduate college (based on the undergraduate/graduate student status of the person who initiated the appeal). The student should contact the Ofþce of the University Ombuds (770-423-6112) to arrange a facilitated discussion (a neutral party would be present) if the student is not comfortable discussing the allegation with the faculty memberõs immediate supervisor by himself/herself. The faculty memberõs supervisor should notify the faculty member of the studentõs allegation(s). The faculty memberõs supervisor will render a decision concerning the grade and the discrimination/retaliation allegations. If this grade appeal also includes an allegation of a violation of stated grading policy, the faculty memberõs immediate supervisor must address that issue as well.

B. If a student remains dissatisþed with his/her þnal course grade, he/she may þle a written appeal (including supporting evidence or documents) within sixty days from the end of the semester in which the þnal course grade was assigned with the immediate supervisor of the faculty memberõs immediate supervisor (usually the dean of the appropriate college). If the faculty member is a chair then this would be the associate vpaa or dean of the graduate college (based on the undergraduate/graduate student status of the person who initiated the appeal). If the faculty member is a dean then this would be the provost/vpaa.

C. The immediate supervisor of the faculty memberõs immediate supervisor or his/her designee (usually the dean of the appropriate college, but see B. above) must then contact the KSU chief diversity ofþcer (CDO) (678-797-2614) as soon as possible and share the studentõs written grade appeal based on discrimination/harassment/retaliation with that ofþce. The immediate supervisor of the faculty memberõs immediate supervisor (usually the dean of the appropriate college, but see B. above) must then notify within one week of receiving the complaint in writing the faculty member and the faculty memberõs immediate supervisor (usually the department chair, but see A. above) of the allegation of the grade appeal based on discrimination/harassment/retaliation and of the pending investigation.

D. The immediate supervisor of the faculty memberõs immediate supervisor or designee (usually the dean of the appropriate college, but see B. above), in consultation with the chief diversity ofþcer or designee, will conduct an investigation of the studentõs allegation that his/her þnal grade in the course is unfair because of (1) discriminatory practice(s) or harassment based on race, religion, color, sex, sexual orientation, disability, age, or national origin, or (2) retaliation by a faculty member because of the studentõs prior report of discrimination

eligible for readmission as a graduate student. Individual graduate programs may have additional grading policies. Please see speciþc graduate program section of the catalog for additional information on grade expectations. A student who wishes to appeal after the þrst exclusion must submit a letter describing the situation and stating the reasons for requesting the appeal to the appropriate

tory Graduate Level Student Performance, as outlined above, apply to all second graduate degree students.

Each candidate for a second masterôs degree must apply for graduation. A student may request in absentia status by writing to the registrar prior to graduation exercises. An application for graduation will be accepted and may be þled during the semester preceding the þnal semester or summer term of enrollment but must be þled before the end of the þrst week of his/her þnal semester. This form may be obtained from the program director ôs ofþce. A student may not] ụ m A D f M ˘ "

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5. C.V./R®sum® (Optional).
6. Letter(s) of Recommendation (Optional).

Up to nine semester hours of graduate work from other accredited institutions may be transferred. To be transferred, course work from other institutions must correspond to Kennesaw State's Master of American Studies curriculum. Students will need to provide course descriptions and syllabi wherever possible, and the amount of credit granted will be at the discretion of the program director. Such course work may be no more than þve years old.

Expectations for satisfactory graduate level student performance are detailed in the Academic Policies section of this catalog.

Master of American Studies candidates must petition to graduate at least one semester prior to completion of degree requirements.

The Master of American Studies Program consists of 36 credit hours and fulþllment of a foreign language requirement, as follows:

- AMST 7000 - American Studies Scholarship
- AMST 7100 - American Studies Methods

At least one course must be taken from each of the following:

- AMST 7200 - American Cultural Movements
- AMST 7210 - Historical Period
- AMST 7220 - Passages to America
- AMST 7230 - Public History and Culture

- AMST 7300 - American Cities, Suburbs, and Countryside
- AMST 7310 - Regional Studies
- AMST 7320 - America in Transitional Context

- AMST 7400 - The Film Industry in American Culture
- AMST 7410 - Literature and Performance in American Culture
- AMST 7420 - American Popular Culture
- AMST 7430 - Identities and Social Groups
- AMST 7440 - Enterprise & Labor in American Culture

- AMST 7500 - Practicum (Internship or Applied Research Project)
  or
- SA 8890 (Study Abroad)

Non-AMST electives or additional AMST courses as approved by the program director (may include up to 6 credits of graduate-level language courses); at least one course outside American Studies.

Final project can be applied, creative, or a traditional thesis but must include a literature review or knowledge base element.

- AMST 7900 - Capstone Experience

May be met by a proþciency test administered by the department of foreign languages, coursework to FL 2002 at the undergraduate level with a grade of òCó or better, graduate level coursework indicating language proþciency, or equivalent (e.g., study abroad program with a language competency component) as approved by the program director.

graduates as practitioner-scholars can pursue faculty positions at academic institutions or may apply their skills in advanced positions within their current organization or through consulting.

The Coles DBA admission process is highly competitive and designed to identify applicants with the skills, background, and experience necessary to complete the requirements of a doctoral degree program. There is a five-step process for admission. Applicants submit different application materials at each step and are notified after a review of their materials whether they need to submit materials for the next step. For directions on how to apply, applicants should review the information at http://coles.kennesaw.edu/dba/admissions_process.htm.

The application process begins during the summer, enrollment decisions are made in the fall for admittances to a DBA cohort beginning during the following summer semester. Applicants offered admittance to a cohort but who are unable to attend will need to reapply for a future cohort. All students who have been admitted to the DBA program are required to register for the specified number of courses each semester in order to remain in good standing.

Transfer credit is not permissible for any part of the Coles Doctor of Business Administration program.

Summer (6 Hours)

- Required Student Orientation & Business Inquiry Workshop
- DBA 9001 - Micro Issues in Business
- DBA 9003 - Macro Issues in Business

Fall (6 Hours)

- DBA 9102 - Quantitative Research Methods I
- DBA 9103 - Survey, Design & Research Methods

Spring (6 Hours)

- MGT 9612 - Seminar in Marketing Management
- MGT 9650 - Special Topics in Management

Marketing Concentration
Must take two of the following four courses specifc to chosen concentration:

- MKTG 9601 - Seminar in Behavioral Research
- MKTG 9611 - Seminar in Business Strategy
- MKTG 9612 - Seminar in Marketing Management
- MKTG 9650 - Special Topics in Marketing

Summer (3 Hours)

Research Methods & Dissertation Design I
Must take the course appropriate for chosen concentration:

- ACCT 9901 - Research Methods & Dissertation Design I
- FIN 9901 - Research Methods & Dissertation Design I
- MGT 9901 - Research Methods & Dissertation Design I
- MKTG 9901 - Research Methods & Dissertation Design I

Fall (6 Hours)

- DBA 9104 - Quantitative Research Methods II

Concentration Doctoral Directed Study
Must take the course appropriate for chosen concentration:

- ACCT 9608 - Concentration Doctoral Directed Study
- FIN 9608 - Concentration Doctoral Directed Study
- MGT 9608 - Concentration Doctoral Directed Study
- MKTG 9608 - Concentration Doctoral Directed Study

Spring (6 Hours)

Research Methods & Dissertation Design II
Must take the course appropriate for chosen concentration:

- ACCT 9902 - Research Methods & Dissertation Design II
- FIN 9902 - Research Methods & Dissertation Design II
- MGT 9902 - Research Methods & Dissertation Design II
- MKTG 9902 - Research Methods & Dissertation Design II

Concentration Doctoral Directed Study
Must take the course appropriate for chosen concentration:

- ACCT 9608 - Concentration Doctoral Directed Study
- FIN 9608 - Concentration Doctoral Directed Study
- MGT 9608 - Concentration Doctoral Directed Study
- MKTG 9608 - Concentration Doctoral Directed Study

Summer (3 Hours)

- DBA 9005 - Career Transition Strategies

Fall (6 Hours)

Dissertation Research
Must register for 6 hours of the course appropriate for chosen concentration:

- ACCT 9904 - Dissertation Research
- FIN 9904 - Dissertation Research
- MGT 9904 - Dissertation Research
- MKTG 9904 - Dissertation Research

*Dissertation courses (9904) may be repeated for credit.

Spring (6 Hours)

Dissertation Research
Must register for 6 hours of the course appropriate for chosen concentration:

- ACCT 9904 - Dissertation Research
- FIN 9904 - Dissertation Research
- MGT 9904 - Dissertation Research
- MKTG 9904 - Dissertation Research

*Dissertation courses (9904) may be repeated for credit.

Possible areas of study include, but are not limited to, accounting, business information systems, economics, entrepreneurship, finance, general management, human resource management, international business, marketing, and operations management.

One of the electives (3 credit hours) must be an international course from the list below:

- ECON 8610 - International Business Perspectives
- FIN 8370 - Multinational Financial Management
- MGT 8910 - International Management
- MKTG 8730 - International Marketing Management
- MKTG 8790 - Applied Global Business Strategies

Students may use one business-relevant three-credit-hour course may be taken in a Kennesaw State University graduate program outside of the Coles College of Business in their degree programs. Written permission from the director of the program and from the academic coordinator of the Coles College graduate programs prior to taking the class is required.

The following parameters apply to MBA students who wish to take 8000-level accounting courses as the! M ӟ ᴀ. p ӯ ᴰ M ɣ ᴀ ᵠ ᵐ ᵡ Ң plunting

Students are required to attend a two-day orientation held on the Kennesaw State University campus. Any admitted student who does not attend is disqualified from continuing in the program. The orientation focuses on team building, program expectations, interaction with faculty and administrators, and hands-on learning with WebCT, the distance learning technology platform used in the program. New students also have the chance to interact with students from other program cohorts A second non-credit residential meeting, held concurrently with the orientation, is required for each student team. It consists of one day on which seasoned student teams or team representatives present special topics and demonstrate learned knowledge and skills and best practices.

Expectations for satisfactory graduate level student performance are detailed in the Academic Policies section of this catalog.

Each Georgia WebMBA student must petition to graduate at least one semester prior to completing program requirements. The student must contact the program director of the school to which they were admitted and request a petition to graduate. To request a petition, KSU students must go to http://coles.kennesaw.edu/mba-options/career-growth-mba/advising/cg-intranet.html . The Graduate Business Office will prepare a petition and e-mail it to the student's preferred e-mail account. Directions on filing the petition with the Office of the Registm þ ɲ m direct ' M

The program consists of a minimum of 51 hours of graduate study, of which 27 hours are in areas of Business Administration and 24 hours are in the areas of Public Administration. Additional credit hours may be taken depending on each student's academic background or areas of concentration in the MPA Program. It generally takes approximately three years to earn both degrees as a full-time student.

Students will be required to take the core courses from both the MBA and the MPA programs.

- ACCT 8000 - Accounting Insights for Managers
- ECON 8010 - Resource Allocation and Decision Analysis
- FIN 8020 - Business Finance
- MGT 8040 - Managing the Value Chain
- MGT 8050 - Managing and Leading Work Behavior
- MGT 8999 - Strategic Management: An Integrative, Capstone Experience
- MKTG 8030 - Strategic Marketing

- PAD 6200 - Fundamentals of Public Administration and Public Service
- PAD 6250 - Research Methods and Computer Applications
- PAD 6350 - Public Service Budgeting
- PAD 6450 - Governmental Relations
- PAD 6500 - Policy Analysis
  or
- PAD 6600 - Program Evaluation
- PAD 6700 - Human Resource Management in Public Service
- PAD 7995 - Public Service Practicum
  or
- PAD 7985 - Internship in Public Service

Students are required to select and complete 9 credit hours of elective courses that best fit their career and personal goals in either program to complete their study. This could include pursuit of one of the MPA concentrations. Public services are delivered primarily through two channels: government agencies and nonprofit organizations. In consultation with the faculty and the program director, students may develop their specific areas of administrative expertise by selecting an appropriate combination of courses within designated concentrations.

Required:

- PAD 7455 - Administrative Law

Students will select three from the following:

- CM 7100 - Introduction to Conflict Management
- MGT 8970 - Ethics in Managerial Decision Making
- PAD 7120 - Health Policy
- PAD 7130 - Regional Politics and Policy
- PAD 7150 - Contemporary Public Issues
- PAD 7230 - Local Governance and City Management
- PAD 7250 - Leadership and Ethics in Public Service
- PAD 7390 - Public Financial Management
- PAD 7430 - Regional and Local Planning

Required:

- PAD 7100 - Philanthropy and the Nonprofit Sector
- PAD 7180 - Nonprofit Governance and Administration
-

Students will select two of the following:

- CM 7100 - Introduction to Conflict Management
- MGT 8970 - Ethics in Managerial Decision Making
- PAD 7120 - Health Policy
- PAD 7130 - Regional Politics and Policy
- PAD 7150 - Contemporary Public Issues
- PAD 7250 - Leadership and Ethics in Public Service

Required:

- IS 8100 - Advanced IT Project Management
- IS 8200 - Legal and Ethical Issues in Information Systems
- IS 8700 - Information Systems Policy and Strategy

Contact: Dr. Amy Woszczynski, Director, MSIS Program
Office: CL 3000
Phone: (770) 423-6005
Fax: (770) 423-6731
Email: awoszczy @kennesaw.edu

The Master of Business Administration / Master of Science in Information Systems (MBA / MSIS) Program is a dual degree offered by the Coles College of Business Administration and the College of Science and Mathematics. The objective of this program is to allow students who are interested in information systems and business to concurrently register in both MBA and MSIS programs. The relationship between information technology and success in the business enterprise makes this program innovative and attractive to students wishing to become IT leaders. Specifically, documented expertise in these related areas provides graduates with opportunities for advancement and career mobility in areas such as project management, information technology, strategy, management, and information security.

To be admitted into the dual degree program, the applicant must specify the option at the time of application to the Graduate School. Students interested in applying for the MBA / MSIS dual degree program should consult with either the MSIS Director or the MBA Director with regard to admission requirements and required courses.

1. Submission of application to the graduate admission office and a non-refundable application fee;
2. Baccalaureate degree from an institution accredited in a manner accepted by Kennesaw State University;
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Applied Computer Science

Contact: Dr. Victor Clincy, MSACS Director
Office: CL 3033
Phone: (770) 420-4440
Fax: (770) 423-6731
Email: vclincy@kennesaw.edu
Web address: http://msacs.kennesaw.edu

The Master of Science with major in Applied Computer Science for Experienced Professionals (MSACS) is a thirty-six hour graduate degree program with coursework in the following areas:

- Software Architecture and Engineering
- Embedded Systems
- Software Project Engineering
- Bio-Informatics
- Software Engineering
- Digital Game Design
- TCP/IP and the Internet
- Computing Systems
- Robotics and Artificial Intelligence
- Data Mining
- Database Administration
- Network Security
- Linux & Python
- Simulation and Modeling
- Active Web Server Pages

Additionally, students may choose electives from multiple areas.

The MSACS is perfect for working professionals with industry experience in computing and information technology interested in obtaining a graduate degree in computer science, concurrent with work commitments. Students can complete the program in 22 months (five semesters including a summer semester). The program is approachable for students with modest technical backgrounds, and does not require an undergraduate degree in computer science.

A thesis option is available to students with undergraduate degrees in computer science and computer engineering.

Instruction is delivered both on campus and at a distance, using web-based technologies, allowing students to attend lectures on campus, or remote and live from work or home. All lectures are also recorded, allowing students to view the archived lectures at their convenience. Real-time interaction between the students and professor will be supported using Voice-over-IP and online “chat” and application sharing.

The non-traditional technology-based instruction delivery component of the MSACS program requires that students have off-campus access to laboratory components. Courses

with hardware-specific lab experiments (i.e. embedded systems, robotics) will be conducted using hardware and equipment issued to each student for home and off-campus use.

The MSACS admits students into two categories: The non-CS undergraduate category is available to students with undergraduate majors other than computer science. These students are required to take 1 to 3 foundation courses before enrolling in 8000-level courses. The CS undergraduate category requires an undergraduate degree in computer science or related major. Admission is based on an overall evaluation of all of the candidate's qualifications.

1. An undergraduate degree from an accredited institution is required.
2. Minimum cumulative undergraduate adjusted GPA of 2.85 on a 4.0 scale.
3. Acceptable scores on the General Test of the Graduate Record Examination (GRE).
4. Other criteria will be considered by the MSACS Admissions Committee:
   - Undergraduate major and coursework;
   - Professional certifications in computing areas;
   - Work experience in the IT field;
   - Other professional activitie
5. College-level coursework in the following foundation areas is required:
   - mathematics and statistics;
   - physical science;
   - two course computer programming sequence (Java or C++ preferred);
   - computer architecture;
   - operating systems;
   - simple data structures.
6. International applicants must submit a TOEFL score. International transcripts must be formally evaluated as per KSU requirements.

Expectations for satisfactory graduate level student performance are detailed in Academic Policies section of this catalog.

Each MSACS candidate must complete a petition to graduate at least one semester prior to completion of program requirements. The petition will be reviewed by the MSACS director to ensure that all graduation requirements are being met, prior to submission to the KSU registrar's office.

The MSACS Premium Program includes premium features that enrich the student's education with a variety of resources and experiences. The cost of the program entails a $1500 acceptance fee and $5200 per semester over five semesters for a total of $27,500. There could be additional fees levied by the State of Georgia Board of Regents. This tuition includes fees, books and class materials, access to lectures using distance learning technology, recorded lectures, and other premium features currently including: a laptop, PDA, digital logic lab kit including microprocessor and components, membership in the Association for Computing Machinery (ACM), and optional certification.

All MSACS applicants are encouraged to apply for financial aid in the event of an emergency that could prevent them from fulfilling their commitment to the program.

A $1500 acceptance fee is due before starting the program. Tuition is prorated over the length of the program, with a payment of $5200 due on or before the first day of class for each of the five semesters.

Methods of Payment
Payment of the $1500 acceptance fee can be made online with a credit card via link on the MSACS website.

Payment of this fee and the $5200 semester tuition fee can be made by check or cash.

- Checks are sent to the Kennesaw State University, Bursar's Office, 1000 Chastain Road, MB #0503, Kennesaw, GA 30144-5591.
- Cash payments must be made at the Cashier's Window in the Student Center.

Any questions regarding payment of tuition should be directed to the Program Coordinator in the Department of Computer Science and Information Systems, located in the Ann & Johnson Information Technology Building (formerly Computer Science and Mathematics Building).

In most instances, a company will not pay tuition until after grades are assigned. To set up this method of payment, the student must request the company to send a Letter of Authorization the Bursar's Office, Kennesaw State University, 1000 Chastain Road, Kennesaw, GA 30144-5591, at the beginning of the semester. The letter must include the following information:

- Student's name and social security number for whom tuition will be paid;
- Semester for which tuition will be paid;
- Amount of tuition that the company will pay;
- Copy of page(s) from Human Resource Manual stating the tuition payment or reimbursement policy of that company.

At the end of the semester, the student is responsible for requesting from the registrar a verification request letter confirming the semester and the grade received for the courses. Payment from the company is due no later than 15 days after the beginning of the following semester. The student is responsible for any amount not covered by the company. Unpaid balances should be paid at the beginning of the semester. If the student cannot cover the cost at the beginning of the semester, a Promissory Note must be signed by the student indicating a specific date before the end of the current semester when the balance will be paid in full.

4. Statement of Intent describing the applicantôs interest in the study of international conÿict management and any relevant experiences and an outline of how the Ph.D. program could further those interests.
5. Writing Sample demonstrating writing and analytical abilities related to higher education or professional experience. This writing sample is preferred in English, however will be accepted in another language accompanied by an English translation. There are no length requirements, however longer samples (e.g., a senior or masterôs thesis) should be accompanied by an abstract or executive summary.
6. Letters of Recommendation from three references, at least two of which describing the applicantôs qualiþcations, motivation and prospects for success in the program. The references will be sent an email with a link to a reference form to be completed electronically.
7. Transcripts from all post-secondary educational institutions. Although unofþcial transcripts may be uploaded online, applicants still need to submit ofþcial transcripts. Transcripts from foreign institutions must be accompanied by an ofþcial evaluation. Transcripts may be evaluated at any of the credentialed evaluation services listed at www.naces.org/members.htm . Evaluations must include a course-by-course listing and a calculation of the applicantôs GPA.
8. Ofþcial GRE scores from within the last þve years.
9. TOEFL (Test of English as a Foreign Language) or IELTS (International English Language Testing System) scores for all applicants who are not native speakers of English (www.ets.org/toeÿ/ (minimum score of 88) or the IELTS www.ielts.org/ (minimum score of 6.5)), unless: they come from exempt countries; have graduated from a college or university in the United States accredited in a manner accepted by KSU; or who have studied successfully for at least one year at a university in which English was the medium of instruction.

A maximum of twelve graduate transfer credits can be accepted from accredited graduate programs at KSU or other universities, pending approval by the Program Admissions Committee.

Program Structure and Degree Requirements
Completion of the INCM Ph.D. requires 60 semester hours of doctoral coursework - including an international þeld experience - proþciency in a foreign language (no degree credit) and 15 semester hours of dissertation research, writing, and defense. In addition, program completion requirements include a qualifying exam, comprehensive exam, dissertation proposal approval, and dissertation defense. The program provides students maximum ÿexibility to tailor their education to topical and regional interests and the demands of the global job market. Students will ideally select a specialization during the second semester in the program (e.g., international conÿict related to environmental, human rights, development, or security issues, etc.).

Students will be allowed to graduate when all degree requirements have been fulþlled.

- INCM 9001 - Theories and Analysis in International Conÿict Management
- INCM 9002 - International Relations: Theory, System, and Practice
- INCM 9003 - Essentials of International Negotiation: Theory and Practice

Å INCM 9101 - Fundamentals of Research Design
Å INCM 9102 - Quantitative Methods
Å INCM 9103 - Qualitative Methods

Å INCM 9210 - Advanced Quantitative Methods
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includes a non-refundable reservation
fee of $500 which is due upon ofþcial

1. an earned master's degree in professional education or a related field;
2. a clear and renewable Georgia Teaching Certificate or equivalent;
3. current full-time employment as a professional educator with at least five years of teaching or administrative experience or both in K-12 education for Ed.D. (four years for Ed.S), and
4. a Graduate Aptitude & Achievement Index Score of at least 3500. The Graduate Index Score = (GRE Quantitative Score + GRE Verbal Score) x GPA for the master's degree.

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Applicants to the program must submit the following.

1. Official transcripts of all college coursework, undergraduate and graduate, showing evidence of completion of a master degree or its equivalent in a related field.
2. Official scores on the General Test of the Graduate Record Exam within the last five years.
3. All relevant professional teaching and/or administrative certificates.
4. Professional Profile detailing related professional qualifications.
5. Reflections on Leadership for Learning.
6. Official request for consideration of transfer courses.

*International applicants have additional requirements; see Graduate Admission section of this catalog.

If accepted to the programs, up to 15 post-master's graduate semester hours of comparable transfer credit for the Ed.D. and nine post-master's graduate semester hours for the Ed.S. may be accepted toward completion of the requirements. Transfer credit will not be accepted for the core course requirements that are central to the program's distinctive focus and development of its cohort experience. Consequently, transfer credit considerations are typically restricted to courses in the concentration, guided electives, and the initial course in applied research methods. Decisions about the acceptability of transfer credit will be made on a case-by-case basis and must be approved by the concentration advisor and director of the doctoral program.

The admissions process for the doctoral degree consists of multiple levels of review and is a highly competitive process.

The final evaluation of applicant files is conducted by the Graduate Admissions Committee. Applicants to the program are initially evaluat ! ! Admission file. d Admission im'o)Th l ť l ŎM ɔ ogram. is baset epon Th ɣ ʌ ʞ W ʒs%cq ɔ ʇ ʁ l ľ

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Select 6 hours from the following, with the approval of the English / Language Arts Faculty Advisor.

- ENED 8741 - Digital Media and Pedagogies in English / Language Arts Education
- ENED 8998 - Internship in English / Language Arts Education
- ENED 9300 - Critical Issues for Student Learning
- ENED 9350 - Doctoral Directed Study in English / Language Arts Education
- ENED 9375 - English / Language Arts Program Assessment
- PRWR 6280 - Business and Technical Editing
- PRWR 6500 - Teaching Writing in High Schools and Colleges
- PRWR 6650 - Introduction to Literacy Studies
- PRWR 6750 - Teaching Writing to Speakers of Other Languages
- PRWR 6860 - Intercultural Communication in Context
- PRWR 7550 - Advanced Applied Writing

The Adolescent Education- Mathematics concentration is designed for educators who are currently certified to teach mathematics at the middle or secondary level and who have previously successfully completed coursework in graduate level mathematics. Graduates of the program are leaders for learning because they possess the knowledge, skills and dispositions necessary to serve in a variety of distributed leadership roles in P-12 schools. The concentration is aligned with NCATE and PSC Unit Standard 1, as well as with the National Council of Teachers of Mathematics standards. Consistent with the Bagwell College of Education's Conceptual Framework, the Collaborative Development of Expertise in Teaching, Learning and Leadership, graduates of the program are prepared to serve as collaborative experts in the content area of mathematics and to be effective advocates, agents, mentors and models and to serve in a variety of distributed leadership roles.

- EDAD 8100 - Curriculum Theory & Practice in Middle & Secondary Schools
- EDAD 8200 - Supervision, Mentoring, and Advocacy in Middle and Secondary Schools
- EDAD 8300 - Critical Analysis & Educational Policy for Teacher Leaders
- EDAD 8400 - Internship in Teacher Development or Teacher Education
- EDAD 9300 - Critical Issues for Student Learning: (Topic)
- EDAD 9350 - Doctoral Directed Study

- MATH 7700 - Elementary Set Theory
- MATH 7712 - Discrete Mathematics
- MATH 7713 - Statistics and Data Analysis
- MATH 7714 - Geometry from Multiple Perspectives
- MATH 7717 - Elementary Number Theory
- MATH 7718 - Functions and Analytic Techniques
- MATH 7900 - Special Topics
- MATH 7950 - Directed Study
- MAED 7701 - History of Mathematics
- MAED 7715 - Mathematical Problem Solving
- MAED 7716 - Math Studies
- MAED 7719 - Technology and Mathematics
- MAED 7751 - Mathematics Teaching and Learning
- MAED 8900 - Research Methods and Critique in Mathematics Education
- MAED 9300 - Critical Issues for Student Learning: (Topic)
- MAED 9350 - Doctoral Directed Study

  or
- Courses in Applied Statistics (With advisor approval)

agencies that serve students with disabilities or those who are culturally and linguistically diverse. The program's courses, designed experiences, and embedded assessments are tightly aligned with eight key performance outcomes which represent the invitational and inclusive nature of distributed leadership as a framework within which formal and informal leaders address and act on complex P-12 issues:

- Foster an organizational culture that facilitates development of a shared vision, a plan for school improvement, and increased learning for all students;
- Implement sustainable educational change and process improvement;
- Create 21st century learning environments that advance best practices in curriculum, instruction, and assessment;
- Engage in applied research that supports data-driven planning and decision-making for the improvement of schools and learning;
- Build collaborative relationships, teams, and community partnerships that communi-

study prepares teachers to model best practices in the use of instructional technologies and provides high-quality professional learning experiences for other educators. This course of study is designed to meet the Georgia Professional Standards Commission (GAPSC) standards for receipt of a T-6 (Ed.S.) and a T-7 (Ed.D.) certificate.

The concentration is aligned to the Technology Facilitation standards developed by National Council of Accreditation of Teacher Education (NCATE) and the International Society for Technology in Education (ISTE). These standards are designed to help candidates "exhibit knowledge, skills, and dispositions equipping them to teach technology applications; demonstrate effective use of technology to support student learning of content; and provide professional development, mentoring, and basic technical assistance for other teachers who require support in their efforts to apply technology to support student learning" (ISTE/NCATE, 2002). Candidates address these performance standards in the context of collaborative inquiry with

Dissertation topics and research must be focused on developing and documenting policies and practices positively impacting student learning. The dissertation must clearly link to at least one of the eight roles of Distributed School Leadership which serve as thematic organizers. Candidates collaborate with and rely on support from peers, faculty and P-12 professionals for review of the literature, research and design recommendations, editing and feedback.

- ECE 9900 - Dissertation
- EDAD 9900 - Dissertation
- EDL 9900 - Dissertation
- EDUC 9900 - Dissertation
- ENED 9900 - Dissertation
- INED 9900 - Dissertation
- ITEC 9900 - Dissertation
- MAED 9900 - Dissertation

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The focus in the Common Core is for candidates to develop shared leadership expertise by building networks of influence and working across boundaries. Candidates are introduced to and develop an understanding of the foundation of Distributed School Leadership for learning. Through collaborative case study & problem based learning experiences embedded in the context of schools, cohorts of candidates, regardless of concentrations work together to tackle the tough, ambiguous challenges prevalent in today's P-12 schools. Candidates develop an understanding of and proficiency in a variety of distributed leadership roles and demonstrate their expertise as required in the eight Performance Outcomes.
The courses are:

- EDL 8000 - Foundations of Leadership for Learning
- EDUC 8100 - Advanced Study of Learning
- EDUC 8300 - Intercultural Communication and Global Learning
- EDRS 8000 - Applied Quantitative & Qualitative Research
- EDL 8100 - Critical Issues in School Transformation
- EDRS 8900 - Applied Field Research

The focus of the Concentration is to deepen and broaden the knowledge, skills, and dispositions of the candidates in their content. In order to be a mentor, to empower others, and to support and sustain change within schools, graduates must be viewed as strong content leaders by their colleagues. Candidates have five concentration options in the Ed.S. program—Adolescent Education-Language Arts, Adolescent Education- Mathematics, Early Childhood and Elementary Education, Inclusive Education, and Instructional Technology. The description of these options and the courses of study are provided below.
Adolescent Education

- EDAD 8100 - Curriculum Theory & Practice in Middle & Secondary Schools
- EDAD 8200 - Supervision, Mentoring, and Advocacy in Middle and Secondary Schools
- EDAD 8300 - Critical Analysis & Educational Policy for Teacher Leaders
- EDAD 8400 - Internship in Teacher Development or Teacher Education
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- MATH 7950 - Directed Study
- MAED 7701 - History of Mathematics
- MAED 7715 - Mathematical Problem Solving
- MAED 7716 - Math Studies
- MAED 7719 - Technology and Mathematics M

credit if they are more than five years old at the time of evaluation. Transfer credit includes all course work accepted into the M.Ed. program prior to admission in full standing (maximum nine semester hours), whether earned at another institution or at Kennesaw State University.

Each M.Ed. candidate must petition to graduate at least one semester prior to completion of program requirements. The Petition to Graduate form can be found online at www.kennesaw.edu/education/grad.

Candidates for the M. Ed. in Adolescent Education take a combination of courses in the professional sequence, content, and cognate areas. Candidates are strongly urged to meet with their advisors during the first semester of study to plan their programs.

- EDUC 7700 - Reflective Inquiry
- EDUC 7703 - Advanced Studies of Middle Grades Learner
  or
- EDUC 7702 - Best Practices in Secondary Schools
- EDUC 7752 - Multiple Literacies in Schools and Communities
  or
- EDRD 7718 - Content Area Reading and Writing
- EDUC 7705 - Assessment and Evaluation
- EDUC 7741 - Educational Research
- EDUC 7797 - The Portfolio

Required courses

- ENGL 7750 - English Studies in the Schools
- ENGL 7741 - Technology and Media in English and Language Arts
- ENGL 7731 - Language Studies in English
- ENGL 7735 - Introduction to Composition Studies
- ENGL 7711 - Multicultural Literature in English

Plus one other selection from the following:

- ENGL 7701 - Topics in Literature
- ENGL 7709 - Workshop for Teachers of Writing
- ENGL 7710 - Writing on Teaching
- ENGL 7721 - Author Studies
- EDRD 7715 - Theory and Pedagogy in the Study of Literature
- EDRD 7719 - Reading Assessment and Instruction

- MATH 7700 - Elementary Set Theory
- MAED 7701 - History of Mathematics
- MATH 7712 - Discrete Mathematics
- MATH 7713 - Statistics and Data Analysis
- MATH 7714 - Geometry from Multiple Perspectives
- MAED 7715 - Mathematical Problem Solving

tional leaders. Examples of leadership for the classroom teacher may include the development of exemplary skills teaching content areas for diverse populations, and development of skills in classroom-based research. Outside the classroom, accomplished classroom instructional leaders may share their knowledge and skills through conference presentations, collegial exchanges,

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*International applicants have additional requirements and each case is reviewed by the Graduate Admissions Committee. See Graduate Admissions section of this catalog.

Admission to a cohort group is competitive and is open to a limited number of candidates. An applicant will not be considered for admission until all application requirements are met by the specifed deadline. Admission decisions are competitive and are made by the Department of Elementary and Early Childhood Education Graduate Admissions Committee. If admission is denied on the frst review, an applicant's fle automatically remains in the pool for one year, and will be considered during the next admission review. The decision from the Graduate Admissions Committee is communicated in writing to the applicants. There is no provisional admission status.

Candidates enrolled in the M.Ed. for in Early Childhood Education will not be given credit for graduate courses taken at other institutions.

Expectations for satisfactory graduate level student performance are detailed in Academic Policies section of this catalog.

A Georgia Teaching Certifcate in Early Childhood or Elementary Teaching is required. Provisional Certifcates are not accepted.

Students classifed as non-degree students are not permitted to enroll in the M.Ed. in Early Childhood Education. This program will not provide graduate level course work for certifcation renewal purposes.

Each M.Ed. candidate must petition to graduate at least one semester prior to completion of program requirements. The Petition to Graduate form can be found online at www.kennesaw.edu/education/grad.

The M.Ed. in Elementary and Early Education is designed specifcally for Accomplished Classroom Instructional Leaders. The program allows experienced classroom teachers in Elementary education (P-5) to earn a M.Ed. in four semesters while continuing their teaching careers. Candidates complete three phases taught by full-time graduate faculty and experienced school personnel. The program will be delivered in cohorts offered at centers in public schools, on campus, as well as online. Each center will have a cohort coordinator and graduate faculty who will mentor candidates and facilitate program delivery. The program of study schedule is designed to coincide with the public school calendar and will be provided in advance so teachers can coordinate educational and personal commitments with program requirements.

Throughout this program, candidates are involved with distance learning, the use of modules, direct instruction, cohort planning, and individual projects, all of which are tied to national standards and school improvement plans. The fnal phase of the program involves the candidates in a culminating, enriching, and rewarding learning experience. During this time, candidates complete the development of a personal, professional portfolio that includes evidence relevant to many of the National Board Certifcation requirements. At the end of the program, the accomplished classroom instructional leader possesses the knowledge, skills, and dispositions needed to facilitate and enhance student achievement in their classrooms.

The first semester is designed as a time of instructional inquiry. As candidates develop new insights, they explore the knowledge and skills of education, research, and multiple assessment strategies, curriculum programs, and technology implementation for student achievement. The purpose of the instructional inquiry phase is to prepare candidates for successful classroom instructional leadership at the advanced level. These candidates gain an in-depth understanding of pedagogy that represents best practices; content knowledge based on local, state, and national standards; instructional technology; globalization; and applied educational research methodology. The acquired advanced understanding will allow candidates to use inquiry, investigation, exploration, and reflection to prepare educational environments that support all children's learning as they implement multiple methods and strategies to meet the needs of an increasingly diverse student population.

- ECE 7511 - Inquiry: Educational Research and Prospectus
- ECE 7512 - Inquiry: Best Instructional and Curricular Practices & Multiple Assessment Strategies
- ECE 7514 - Inquiry: Essentials of Technology Strategies and Skills & Introduction to E-portfolio

During this phase of the M.Ed. in Early Childhood Education, candidates explore models of teaching excellence based on curriculum content integration (including mathematics, social studies, language arts, and science) and local, state, and national standards, as well as assessment modifications, and environmental modifications that enhance student achievement. The purpose of the second phase is to prepare candidates for successful instructional leadership at the advanced level as well as the facilitation of student learning through integration of the curriculum, and the practice of action research to validate instructional decisions for all students. The candidates reflect on their teaching and practice to make informed adjustments that enhance and extend student achievement. Focusing on the implementation of their prospectus, the candidates work as teacher researchers in the design, assessment, and efficacy of curriculum

- ECE 7550 - Prospectus Completion
- ECE 7551 - Portfolio Completion
- ECE 7560 - Accomplished Instructional Leader

- ECE 7511 - Inquiry: Educational Research and Prospectus
- ECE 7512 - Inquiry: Best Instructional and Curricular Practices & Multiple Assessment Strategies
- ECE 7514 - Inquiry: Essentials of Technology Strategies and Skills & Introduction to E-portfolio

- ECE 7700 - Scientifc Foundations of Early Childhood Education
- ECE 7710 - Physical Development and Enhanced Control of Movement
- ECE 7720 - Sensorial Foundations of Intellectual Life
- ECE 7730 - Development of Language and Literacy Skills
- ECE 7731 - Competence in the Preparation and Presentation of Language Materials
- ECE 7740 - The Early Preparation of the Mathematical Mind

- ECE 7550 - Prospectus Completion
- ECE 7551 - Portfolio Completion
- ECE 7560 - Accomplished Instructional Leader

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The M.Ed. in Educational Leadership is designed to prepare and develop educational leaders to direct school improvement toward higher levels of student learning and achievement. The program allows experienced educational professionals to earn an M. Ed. in six semesters while

accepted for transfer credit if they are more than five years old at the time of evaluation or have been used in completing another degree. Transfer credit includes all course work accepted into the M.Ed. program prior to admission in full standing (maximum nine semester hours), whether earned at another institution or at Kennesaw State University.

Expectations for satisfactory graduate level student performance are detailed in Academic Policies section of this catalog.

Students classified as non-degree students are not permitted to enroll in the M.Ed. in Educational Leadership. This program will not provide graduate level course work for certification renewal purposes.

Each M.Ed. candidate must petition to graduate at least one semester prior to completion of program requirements. The candidate should contact their program to request a petition. The Petition to Graduate form can be found online at www.kennesaw.edu/education/grad/.

The Ethics and Multicultural concentration prepares candidates to make leadership decisions based on legal and ethical principles promoting educational equity. Through a cohort model, the Master of Education program in Educational Leadership prepares dynamic, high-performing leaders for our diverse, technologically complex society with the knowledge and skills to create learning environments that support teacher success in bringing students from diverse groups to high levels of learning. The courses and their typical order of rotation is as follows:

- EDL 7100 - Leadership Theory and Practice
- EDL 7105 - Technology Leadership and Vision in Schools

- EDL 7200 - Leading Curriculum, Instruction and Assessment
- EDL 7205 - Leading Teaching and Learning in the 21st Century

- EDL 7300 - Research in Educational Leadership
- EDL 7305 - Data Analysis and School Improvement

- EDL 7400 - Leading Professional Learning and Change
- EDL 7405 - Human Resources for School Leaders

- EDL 7500 - Educational Law and Policy
- EDL 7505 - Ethical Leadership

- INED 7741 - Educational Research
- INED 7770 - Psychoneurological and Medical Issues in Inclusive Education
- INED 7780 - Collaborative Practices
- EDRD 7715 - Theory and Pedagogy in the Study of Literature
- EDRD 7719 - Reading Assessment and Instruction
- EDRD 7718 - Content Area Reading and Writing

- INED 7705 - Inclusive Education Procedures
- INED 7715 - Nature / Needs: Students with Mild Disabilities
- INED 7720 - Classroom Behavioral Strategies
- INED 7730 - Assessment of Diverse Learners
- INED 7760 - Curriculum Development for Diverse Learners

- INED 7790 - Documenting Professional Growth
- INED 7970 - Internship

The Master of Education in Inclusive Education, with a concentration in TESOL (Teachers of English to Speakers of Other Languages) meets the Georgia Professional Standards Commission (GAPSC) standards for the degree and is part of KSU's teacher education unit fully accredited by the National Council for Accreditation of Teacher Education (NCATE).
The Master of Education in Inclusive Education, with a concentration in TESOL uses a collaborative model that reflects the needs of teachers to serve English language learners in P-12 inclusive educational settings. Course work emphasizes the commonalities and differences of the instructional needs of diverse students and highlights specific practices to foster language acquisition while simultaneously teaching content.

Class assignments are predominantly performance-based and require KSU graduate students to document the impact of their instruction on the achievement of their P-12 students in content aligned with the Georgia Performance Standards (GPS).

The requirements for the M.Ed. in Inclusive Education: TESOL may be met by completing an approved program of 36 semester hours of graduate course work, including a field experience component and preparing and presenting a professional portfolio.

- INED 7781 - Cultural Issues for ESOL Teachers
- INED 7782 - Applied Linguistics for ESOL Teacher

- INED 7783 - Methods and Materials for Teaching ESOL
- EDRD 7715 - Theory and Pedagogy in the Study of Literature

- INED 7741 - Educational Research
- INED 7750 - Language, Power, and Pedagogy

- INED 7760 - Curriculum Development for Diverse Learners
- INED 7780 - Collaborative Practices

- INED 7731 - Assessment of English Language Learners
- INED 7981 - TESOL Internship

- INED 7790 - Documenting Professional Growth

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The Master of Arts in Teaching (MAT) degree leads to initial certification of well-qualified candidates and prepares them to be teacher-leaders. The MAT is standards-based and meets the requirements of the Georgia Professional Standards Commission requirements, and the Georgia Board of Regents. Our innovative teacher preparation programs respond to state needs and contribute to the learning and achievement of Georgia's increasingly diverse public school population. The responsibility for teacher education is shared by faculty in the College of the Arts, Bagwell College of Education, the College of Humanities and Social Sciences, the College of Science and Mathematics, and the Graduate College, in collaboration with master teachers and administrators in local schools.

Course work emphasizes scholarly rigor through research and engagement in a variety of field-based action research projects and supervised practicum and internships. Technology and multicultural considerations are infused throughout the programs. These master's degrees lead to initial certification and are not appropriate for teachers who hold clear, renewable certificates.

Currently, there are seven Master of Arts in Teaching programs, including Secondary English (6-12), Secondary Mathematics (6-12), and Teaching English to Speakers of Other Languages (TESOL) (P-12), Secondary Biology (P-12), Secondary Chemistry (6-12), Secondary Physics (6-12), and Art Education (P-12).

- EDUC 6110 - Adolescent Development and Learning
- EDUC 6120 - Diversity and Exceptionality
- ARED 6200 - Curriculum, Assessment, Classroom Management in Art Education
- ARED 7705 - Contemporary Issues in Visual Arts

- ARED 6200L - Art Education Practicum II
- ARED 6250 - Materials, Methods, & Management for Art Education Classrooms P-5
- ARED 6251 - Materials, Methods, & Management for Art Education Classrooms 6-12
- ARED 7702 - Inclusion in Art Education

- ARED 7701 - Special Topics in Art Education
- ARED 7704 - Intercultural Art Education
- ARED 7706 - Theory and Criticism in Art Education

- ARED 7703 - Technology & Computer Applications
- ARED 7720 - Research in Art Education

- ARED 6300L - Art Education Practicum III
- ARED 7730 - Art Education Portfolio

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- A bachelor's degree in English from an accredited institution or completion of 18 pre-requisite hours in English with a 2.75/4.0 GPA.

- EDUC 6110 - Adolescent Development and Learning
- EDUC 6120 - Diversity and Exceptionality

- EDUC 6200 - Curriculum, Assessment, and Classroom Management
- EDUC 6300 - Reflective Inquiry and Action Research
- EDUC 6400 - Capstone Seminar

- ENED 6414 - Teaching Secondary English I
- ENED 6414L - Practicum II
- ENED 6475 - Teaching Secondary English II
- ENED 6475L - Practicum III
- ENGL 7701 - Topics in Literature
- ENGL 7721 - Author Studies
- ENGL 7731 - Language Studies in English
- ENGL 7735 - Introduction to Composition Studies
- ENGL 7741 - Technology and Media in English and Language Arts
- ENGL 775

Note: Upon admission, students will declare a certification area in Chemistry, Biology, or Physics, and, in consultation with their program coordinator, select courses to total 9-18 credit hours among the content area courses listed below.

- CHEM 5010 - Medicinal Chemistry
- CHEM 5400 - The Teaching and Learning of Chemistry
- CHEM 5700 - Environmental Chemistry
- CHEM 5800 - Forensic Analytical Chemistry
- CHEM 6310 - Advanced Topics in Analytical Chemistry
- CHEM 6420 - Identification of Organic Compounds
- CHEM 6440 - Polymer Chemistry
- CHEM 6XXX: Advanced Topics in Chemistry (Organic, Inorganic, Physical, Biochem)
- CHEM 7900 - Special Topics

- PHYS 5100 - Classical Mechanics and Applications
- PHYS 5305 - Physics of the Micro World and the Cosmos
- PHYS 5340 - Electronics
- PHYS 5400 - Electricity & Magnetism with Applications
- PHYS 7950 - Directed Study

- BIOL 5327 - Medical Genetics
- BIOL 5380 - Evolutionary Biology
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- INED 7741 - Educational Research
- INED 7750 - Language, Power, and Pedagogy
- INED 7760 - Curriculum Development for Diverse Learners
- INED 7780 - Collaborative Practices

- Guided Elective (can be taken in any semester where fewer than 9 credits are taken). If a candidate wants to receive the Reading Endorsement at the end of the program, he/she must take EDRD 7719 as the guided elective.
- INED 7731 - Assessment of English Language Learners
- INED 7781 - Cultural Issues for ESOL Teachers
- INED 7782 - Applied Linguistics for ESOL Teacher
- INED 7783 - Methods and Materials for Teaching ESOL
- INED 7980 - MAT TESOL Practicum
- EDRD 7715 - Theory and Pedagogy in the Study of Literature

- INED 7790 - Documenting Professional Growth
- INED 7981 - TESOL Internship

Applicants who wish to take graduate courses but do not want to pursue a degree program may be admitted to non-degree graduate study. This graduate level admission category is designed to allow certifed teachers to:

- Renew a teaching certifcate,
- Obtain a Georgia teaching certifcate based on a teaching certifcate from another state in accordance with the evaluation by the Georgia Professional Standards Commission,
- Add a teaching feld to an existing certifcate,
- Add an endorsement or an add-on to an existing certifcate.

The non-degree level category is not designed to satisfy requirements for either initial teacher certifcation or the M.Ed. degree. Qualifed non-degree applicants may take renewal, endorsement, or add-on course work to satisfy the certifcation requirements of the Georgia Professional Standards Commission. Students admitted to non-degree programs in education must

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1. Baccalaureate degree from an acceptably recognized accredited college or university;
2. A minimum undergraduate cumulative grade-point average of 2.75 (on a 4.0 scale);
3. Teaching Certi fcation.

A student who wishes to change from nondegree to degree status must follow all the procedures and meet all the requirements specif ed for the degree program. A maximum of nine semester hours of graduate credit with grades of B or better earned as a non-degree student may be applied toward the requirements of an M.Ed. and Ed.S. degrees and up to 15 semester hours for the Ed.D. degree.

Non-degree graduate students are expected to maintain an overall GPA of at least 3.0 in their course work. Although graduate students may occasionally earn a grade below a “B”, the university expects those instances to be few in number. Failure to maintain an overall GPA of 3.0 in any course work will result in the following changes in the student’s academic standing at Kennesaw State University.

The f rst time a graduate student earns a grade lower than “B” in any graduate or undergraduate course, that student will be placed on academic warning and advised of the consequences that will result if ad(ixional grades lower than a “B” are earned!

Kennesaw State University offers graduate level add-on programs for experienced educators in the fields of Inclusive Education, English to Speakers of Other Languages (ESOL), Educational Leadership, Preschool Special Education, Reading, and Teacher Support Specialist for candidates holding a valid teaching license. Each of these programs meets the Georgia Professional Standards Commission standards. All programs are fully accredited by the National Council for Accreditation of Teacher Education (NCATE).
Applicants for the add-on programs must be fully certified teachers in the State of Georgia (ECE, MGE, SED or P-12) and meet the general admission requirements for non-degree graduate study. Applicants for inclusive education add-on programs must demonstrate they have met competencies in human growth and development, teaching children with exceptionalities, and teaching reading.

The ESOL add-on program prepares certified teachers to teach in ESOL classrooms and to work with students in regular classrooms who are native speakers of other languages. The program includes course work in cultural issues, applied linguistics and methods and materials for teaching ESOL, and a practicum experience. The program consists of nine semester hours and a 3-credit hour practicum.

Required courses

- INED 7781 - Cultural Issues for ESOL Teachers
- INED 7782 - Applied Linguistics for ESOL Teacher
- INED 7783 - Methods and Materials for Teaching ESOL

The Department of Educational Leadership prepares dynamic, high-performing leaders for our diverse, technologically complex society who have the knowledge and skills to build learning communities focused on student achievement. The goal is to produce graduates who are able to create learning environments that support teacher success in bringing students from diverse groups to high levels of learning.

- Complete online Graduate Application;
- Obtain and submit official transcripts from each college attended, including those institutions where degrees were not earned. Official transcripts are those in a university-sealed envelope. Transcripts should reflect at least a Master's degree from an accredited institution;
- Obtain and submit a copy of current, valid Teaching Certificate;
- Obtain and submit two Evaluation and Statement of Support Forms from two administrators;
- Obtain and submit one Mentor Form from a current administrator;
- Obtain and submit a Professional Resume documenting education, work experience, volunteer and service accomplishments, and record of leadership activities.

The program uses a cross-categorical model which reflects the needs of teachers serving diverse learning needs in P-12 educational setting. The program prepares teachers to meet the educational needs of students within a single inclusive education classroom and/or inclusive general education classroom setting. Course work emphasizes the similarities and highlights the differences among students with diverse learning needs and includes a life-span perspective addressing issues from preschool through transition to post-secondary or employment. The course sequence includes courses that link theory and field experience and culminates with a supervised internship. The Add-On Program prepares professional teacher leaders with advanced knowledge of characteristics, procedures, methods and techniques of assessment for students with mild disabilities.

Required courses

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The Preschool/Special Education Add-On Program prepares professional teacher leaders with advanced knowledge of characteristics. language, procedures, methods, and techniques of assessment for preschool students with special education needs.

Required Courses:

- INED 7746 - Models of Development and Procedures for Assessment
- INED 7747 - Developmentally Appropriate Practices for Curricular Design and Methods of Intervention
- INED 7748 - Language Learning & Emergent Literacy

The Coaching Endorsement program is designed for experienced educators. Instruction will involve the use of a variety of instructional methods including, but not limited to, problem-based learning, modules, case-studies, simulation, field experiences, research, and individual projects. Application of learning to school-based issues and problems is a critical component of this applied program.

- EDCO 7010 - Introduction to Coaching
- EDCO 7020 - Using Data for Coaching
- EDCO 7030 - Applied Coaching: Developing, Implementing, and Maintaining a Coaching Plan

The Teacher Leadership Endorsement program is designed for experienced educators. Instruction will involve the use of a variety of instructional methods including, but not limited to, problem-based learning, modules, case-studies, simulation, field experiences, research and individual projects. Application of learning to school-based issues and problems is a critical component of this applied program.

Currently-enrolled KSU students may apply for admission to the Teacher Leadership Endorsement while enrolled in programs that lead to a T-5 certificate or higher.

The Teacher Leadership Endorsement program employs a holistic evaluation of non-degree candidates for admission to the program, which considers the candidate's teaching or professional experience, prior graduate or undergraduate coursework, the faculty's belief in the candidate's likely success in the program, and other factors relevant to the university, college,

and program mission. Candidates wishing to obtain the Teacher Leadership Endorsement as non-degree students typically meet the following admission requirements:

Information Systems

Contact: Dr. Amy Woszczynski,
Director, MSIS Program
Office: CL 3000
Phone: (770) 423-6005
Fax: (770) 423-6731
Email: awoszczy @kennesaw.edu
Web address: http://msis.kennesaw.edu

The Master of Science in Information Systems will help prepare tomorrow's technology leaders to succeed in the global environment. The program emphasizes the strategic importance of technology and the development of qualified and capable leaders for the global organization.

The curriculum covers the importance of leadership and IT strategy through two capstone courses: IS Strategy and IT Leadership. These courses should be taken during the latter half of the student's program of study.

With evening, online, and hybrid classes, the MSIS program gives students the opportunity to engage in significant professional development, without disruption of their careers.

MSIS program admission requires:

- Baccalaureate degree from an institution accredited in a manner accepted by Kennesaw State University;
- Acceptable cumulative undergraduate adjusted grade-point average on a 4.0 scale;
- Acceptable scores on the Graduate Management Admission Test (GMAT) or the General Test of the Graduate Record Examination (GRE);
- A current resume;
- A Statement of Interests describing the applicant's reasons for pursuing an MSIS degree at Kennesaw State University;
- Additional requirements for International Students as specified by the University.
- International applicants have ad

A student may transfer up to six (6) semes

- Advanced IT Project Management
- Leadership
- Statistics / SAS

Since prior permission is required to take courses outside of the department, students should contact the program director before they register for non-MSIS courses.

- IS 8900 - Special Topics in Information Systems
- IS 8910 - Special Projects in Information Systems
- IS 8916 - Cooperative Education
- IS 8918 - Internship
- IS 8920 - IT Customer Relationship Management
- IS 8930 - Information Security Administration

Contact: Dr, Michael Whitman, Director, Information Security and Assurance Program
Office: CL 3000
Fax (770) 423-6005
email: mwhitman@kennesaw.edu
Web address: http://msis.kennesaw.edu/certificate.html

- Baccalaureate degree from an institution accredited in a manner acceptable by Kennesaw State University
- Acceptable cumulative undergraduate adjusted grade-point average on a 4.0 scale.
- Acceptable scores on the Graduate Management Admission Test (GMAT) OR the General Test of the Graduate Record Examination (GRE)
- A current résumé.
- A Statement of Interests describing the applicant's reasons for pursuing an MSIS degree at Kennesaw State University
- Additional requirements for International Students as specified by the University.

The graduate certificate program in information security and assurance is designed for both technology and non-technology graduate students. It encompasses four existing courses:

- IS 8200 - Legal and Ethical Issues in Information Systems
- IS 8300 - Disaster Recovery / Business Continuity Planning
- IS 8930 - Information Security Administration

- IS 8900 - Special Topics in Information Systems
- IS 8910 - Special Projects in Information Systems
- IS 8918 - Internship
- Other course as approved by the certificate coordinator

with GeorgiaView Vista, the distance learning technology platform used in the program.

Expectations for satisfactory graduate level student performance are detailed in the Academic Policies section of this catalog.

MSIPM candidates must petition to graduate at least one semester prior to completion of their degree requirements.

The MSIPM program is a 36 semester-hour course of study that uses a cohort or learning community-style of course delivery. Students admitted to the program will begin as a group in fall semester of year one and complete the program by December of the final fall semester in year two. Courses are offered only once during each cohort cycle. Dropping out for a semester, or not taking a full load, will delay graduation.

- IPM 7720 - World Politics and Governance
- IPM 7725 - Comparative Politics
- IPM 7730 - International Conflict Management

- IPM 7735 - International Development: Policy and Practice
- IPM 7740 - Strategic Negotiation and Decision-Making
- IPM 7745 - International Political Economy

- IPM 7760 - Global Experience *

* The Global Experience course is mandatory for all students. If a student cannot participate in a planned trip due to extenuating circumstances, that student may petition for approval to substitute a Professional Experience Project in its place.

- IPM 7750 - Global Trade: Policy and Practice
- IPM 7755 - Political Risk Management

Applied Exercise and Health Science

Contact: Dr. Ping Johnson, Graduate Coordinator
Office: CC 3044
Phone: (770) 499-3149
Fax: (770) 423-6561
Email: pjohnso2@kennesaw.edu
Web address: http://www.kennesaw.edu/hps

The Master of Science with a major in Applied Exercise and Health Science (AEHS), a 36 semester hour graduate study program, is designed to prepare the graduate students to engage in a variety of leadership positions in the increasingly challenging health and fitness fields. Guided by health behavior theory and research, students completing the program will demonstrate an in-depth understanding of complex problems associated with fitness and health promotion as well as possess the knowledge and skills to develop, implement, supervise, and evaluate effective exercise and health promotion programs.

The objectives of the program are to provide a rich learning experience for students who, upon completion of the program, will be able to: 1) demonstrate the ability to utilize both up-to-date knowledge and skills in advanced fitness and health promotion, research methodology, and assessment techniques to make informed programmatic administrative decisions; 2) develop, implement, supervise, and evaluate effective programs that promote health and wellness; 3) provide culturally competent, age specific health and fitness promotion programs to diverse clients based on a strong theoretical and research foundation thereby improving the quality of lives among various populations; 4) identify, evaluate, and utilize appropriate information technology, resources, and tools in everyday operation and programs in their professional settings; and 5) demonstrate competency in leadership roles as diverse as practitioner, educator, advocate, manager, and administrator in education, practice, and the community by influencing health and fitness promotion as shaped by health policy and societal expectations.

1. Baccalaureate degree in Exercise and Health Science or equivalent from a nationally accredited institution with a major GPA of at least 3.0.
2. Applicants from other disciplines or related fields (e.g., physical education, athletic training, and health education) will be considered for admission with evidence of foundational coursework in community/personal health, exercise physiology, and statistics/research methods.

- EHS 6650 - Theories of Health Behavior and Health Psychology
- EHS 6680 - Exercise Psychology
- EHS 6950 - Advanced Laboratory Techniques in Exercise Physiology
- EHS 7710 - Bioenergetic and Neuromuscular Aspects of Exercise
- EHS 7720 - Cardiovascular and Clinical Physiology
- EHS 7730 - Applied Kinesiology and Biomechanics
- EHS 7750 - Special Topics in Applied Exercise and Health Science
- EHS 7760 - Directed Study in Applied Exercise and Health Science
- EHS 7900 - Master's Thesis
- Selected non-EHS graduate courses with Graduate Advisor's Approval (3)

Nursing

Doctor of Nursing Science, DNS
Contact: Tommie Nelms, RN, Ph.D., Program Director
Ofþce: Nursing Bldg, room 248
Phone: 678-797-2088
Fax: 770-423-6627
Email: tnelms1@kennesaw.edu
Web address: http://www.kennesaw.edu/col_hhs/schoolofnursing/DNS/

The Doctorate of Nursing Science (DNS) is a research-focused applied doctorate and graduates are prepared as scholars with inquiry skills of a researcher, and the leadership skills necessary to inÿuence health processes, outcomes, and policy.

DNS graduates are expected to engage in a variety of career options such as: faculty in schools or colleges of nursing, directors and investigators in nursing-related evaluation programs, leaders in health care delivery settings, and leaders in development of effective health care systems.

Upon successful completion of the DNS pro-

2. Masterôs degree with a major in nursing from a nationally accredited institution;
3. Ofþcial GRE scores of 500 Verbal, 500 Quantitative, and 3.5 (minimum) analytic writing. GRE scores will be considered from applicants whose scores are more than 5 years old (GRE reporting limit), but who can produce òofþcial documentationó of their scores;
4. A current license to practice professional nursing in the United States. (Nursing credentials of international students will be assessed individually);
5. A course in statistics;
6. A course in research at the graduate level;
7. Three letters of recommendation from individuals who can address the applicantôs abilities to do doctoral level work (hold a doctoral degree or equivalent);
8. A curriculum vitae or resume;
9. A written statement of personal and professional interests and goals related to nursing doctoral study (1-2 pages in length);
10. Personal interview with program faculty.

If accepted into the program, up to 15 post-masterôs graduate semester hours of comparable transfer credit for the DNS may be accepted toward completion of the requirements. Transfer credit will not be accepted for the core course requirements that are central to the programôs distinctive focus. Consequently, transfer credit considerations are typically restricted to elective courses and possibly statistics courses. Decisions about the acceptability of transfer credit will be made on a case-by-case basis and must be approved by the doctoral advisor and director of the doctoral program.

The Doctor of Nursing Science (DNS) is designed to prepare nurse educators and scholars for

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Leadership in Responses to Health Disparities

- NURS 9105 - Philosophical Foundations of Responses to Health Disparities
- NURS 9110 - Sociopolitical Theories / Models in Health Disparities

Leadership in Nursing Education Track

- NURS 9205 - Philosophical Foundations of Nursing Education
- NURS 9210 - Curriculum Theories / Models in Nursing

Electives

One must be speciþed as an education elective. Courses may be chosen from new or existing courses. New courses include:

- NURS 9300 - Special Topics
- NURS 9310 - Directed Study

Support Courses

- STAT 9100 - Statistic Methods I
- STAT 9200 - Statistic Methods II

- NURS 9400 - Dissertation
- NURS 9405 - Dissertation Seminar

Contact: Marilyn King, Program Director
Ofþce: Nursing 242
Phone: (770) 423-6172
Fax: (770) 423-6627
Email: mking71@kennesaw.edu
Web address: http://www.kennesaw.edu/col_hhs/schoolofnursing/Masters/index.htm

The WellStar Primary Care Nurse Practitioner Program and the MSN in Advanced Care Management and Leadership Program are professional degree programs that build on the background of experienced registered nurses to prepare them to function as advanced caregivers in a variety of leadership roles in the emerging world of collaborative health care.

Housed in the WellStar College of Health and Human Services, the MSN programs maintain close community ties with a variety of health care agencies and providers.

a professional resumeô for the MSN in Advanced Care Management and Leadership Program applicant. This experience must have occurred within the last þve years and have involved direct patient care. Preference will be given to those candidates with a greater amount of professional experience.

3. Current RN licensure in the state of Georgia.
4. A minimum combined total score of 800 in the verbal and quantitative categories and a minimum 3.5 in the analytical writing category on the General Test of the Graduate Record Examination. Applicants may make a formal written request to waive this requirement only when the applicant has completed another graduate degree program and an appropriate transcript is transmitted in support of the request.
5. A formal statement of personal goals for the program not to exceed one typed page.
6. An undergraduate physical assessment course.
7. An undergraduate research course.
8. An undergraduate statistics course.
9.

- NURS 7747 - Research Applications and Outcome Evaluations in Advanced Practice II
- NURS 8863 - Advanced Leadership Project
- NURS 7780 - Ethics of Leadership for Advanced Practice Nursing
- NURS 7785 - Health Policy and Finance
- NURS / CM 7791 - Seminar in Principles of Conÿict Management for Advanced Practice Nursing

- Electives (4)
- NURS 7774 - Advanced Care Management Models for Practice
- NURS 8860 - Assuming Leadership Role in Advanced Care Management
- NURS 8861 - Assuming Leadership Role in Advanced Care Management
- NURS 8862 - Assuming Leadership Role in Advanced Care Management

- NURS 7792 - Curriculum, Instruction, & Evaluation in Health Care Organizations
- NURS 7790 - Innovative Teaching Strategies in Advanced Care Management
- NURS 8870 - Assuming Leadership Role in Nursing Education Practicum I
- NURS 8871 - Assuming Leadership Role in Nursing Education Practicum II
- NURS 8872 - Assuming Leadership Role in Nursing Education Practicum III

- NURS 7793 - Health Policy Leadership Seminar
- NURS 7794 - Advanced Leadership & Policy in Multicultural, Changing World
- NURS 7795 - Global Initiatives in Healthcare, Changing World
- NURS 8880 - Assuming Leadership Role in Health Policy-Practicum I
- NURS 8881 - Assuming Leadership Role in Health Policy-Practicum II
- NURS 8882 - Assuming Leadership Role in Health Policy-Practicum III

The WellStar Primary Care Nurse Practitioner Program is fully accredited by CCNE, the Commission on Collegiate Nursing Education. This professional degree prepares experienced registered nurses to sit for certiþcation as a family or adult nurse practitioner. The program builds on the background of professional nurses to prepare them to function as primary care givers in the emerging collaborative world of health care.

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1. An application letter that states the applicant's goals for the MAPW program and a rationale for the choice of concentration and support areas;
2. One copy of representative writing samples from both the concentration and the support area, not to exceed 25 pages;
3. A letter of recommendation is optional.

Provisional standing and non-degree status are not available for applicants to the MAPW program.

*International applicants have additional requirements. See Graduate Admission section of this catalog.

Up to nine hours of graduate work from other accredited institutions may be transferred. To be transferred, course work from other institutions must correspond to Kennesaw State's MAPW curriculum. Students will need to provide course descriptions and syllabi wherever possible, and the amount of credit granted will be at the discretion of the program director. A minimum grade of "B" is required for any course transferred. Such course work may be no more than f ve years old.

Students must earn a grade of "C" or better in every graduate level course. They must also achieve a GPA of at least 3.0 before they can advance to candidacy.

MAPW candidates must petition to graduate at least one semester prior to completion of program requirements. Before MAPW students can petition to graduate, they must have a cumulative grade point average of at least 3.0. The student should contact the MAPW off ce and request a petition be r m l ᵠ˳ M p a u.qurY O ŎM ʌ ϰ ɔ ŋ -edtur. m r̲ tr Б ter¾ l M

- PRWR 6240 - Technical Writing
- PRWR 6260 - Managing Writing in Organizations
- PRWR 6280 - Business and Technical Editing
- PRWR 6410 - Feature Writing
- PRWR 6440 - Professional and Academic Editing
- PRWR 6550 - Document Design and Desktop Publishing
- PRWR 6850 - Web Content Development
- PRWR 6860 - Intercultural Communication in Context
- PRWR 7550 - Advanced Applied Writing
- PRWR 7600 - MAPW Practical Internship
- PRWR 7900 - Special Topics
- PRWR 7950 - MAPW Directed Study

- PRWR 6150 - Context, Style and Audience in Professional Writing
- PRWR 6300 - Understanding Writing as Process
- PRWR 6500 - Teaching Writing in High Schools

Contact: Dr. Jim Elledge, Program Director
Office: (770) 499-3335
Fax (770) 423-6524
email: jelledg1@kennesaw.edu
Web address: http://www.ksu-mapw.com

1. A completed KSU application form, indicating application to the Graduate Certificate in Creative Writing Program
2. An application fee
3.

The application documentation for this certif-cate consists of:

1. A completed KSU application form, indicating application to the Graduate Certif cate in Professional Writing for International Audiences
2. An application fee
3. Off cial undergraduate transcripts
4. Off cial graduate transcripts, if applicable
5. A minimum undergraduate grade point average of 2.5 on a 4.0 scale or a minimum graduate grade-point average of 3.0 on a 4.0 scale
6. Immunization requirement (see Graduate Admission section of catalog)
7. A statement of purpose that explains: what the student wishes to achieve from the program; any experience the student already has in writing, i.e., workshops, reading and writing habits, membership in writers' organizations, awards, publications;
8. A writing sample
9. Optional: A letter of reference from someone who can evaluate the applicant's writing skills

The Certi fcate will be writing-based, which
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3URJUDP 'HVFULSWLRQ
7KH 06$6 SURJUDP LV D VHPHVWHU KRXU DS SROHG JUDGXDWH SURJUDP GHVLJQHG WR PHHW WKH QHHGV RI EXVLQHVV LQGXVWU\ DQG JRYHUQPHQW 7KH SURJUDP LV LQWHQGHG IRU GHQW

‡ 0LQLPXP FXPXODWLYH XQGHUJUDGXDWH
DGMXVWHG JUDGH SRLQW DYHUDJH RI
RQ D VFDOH
‡ 0LQLPXP FRPELQHG VFRUH RQ
WKH YHUEDO DQG TXDQWLWDWLYH SRUWLRQV
RI WKH *HQHUDO 7HVW RU WKH
5HFRUG ([DPLQDWLRQ *5(ZLWKRXW
PLQLPXP VFRUH RI RQ WKH TXDQWLWDWLYH
WDWLYH SRUWLRQ

25

‡ 0LQLPXP VFRUH RI RQ WKH *UDGX
DWH 0DQDJHPHQW $GPLVVLRQ 7HVW
*0$7 ZLWK D PLQLPXP VFRUH RI
RQ WKH TXDQWLWDWLYH SRUWLRQ
‡ 2WKHU FULWHULD ZLOO EH FRQVLGHUHG E\
WKH 06$6 $GPLVVLRQV &RPPLWWHH IRU
DSSOLFDQWV LQFOXGLQJ
‡ FRXUVHZRUN
‡ SURIHVVLRQDO FHUWLFDWLRQV
‡ UHOHYDQW ZRUN H[SHULHQFH
‡ SURIHVVLRQDO DFWLYLWLHV

,QWHUQDWLRQDO DSSOLFDQWV KDYH DGGLWLRQDO UH
TXLUHPHQWV VHH *UDGXDWH $GPLVVLRQV VHFWLRQ
RI WKLV FDWDORJ

&RXUVH 5HTXLUHPHQWV

‡

$GGLWL
*UDGXD
&ROOHJH 2

$GGLWLRQDO *UDGXDWH 2SWLRQV
$FFHOHUDWHG %DFKHORU·V 0DVWHU·V
*UDGXDWH &HUWLILFDWH 3URJUDPV
&RQFHQWUDWLRQV RI ORJ\

$FFHOHUDWHG %DFKHORU·V 0DVWHU·V

7KH $FFHOHUDWHG %DFKHORU·V WR 0DVWHU·V SURJUDP LV GHVLJQHG IRU JUDGXDWLQJ VHQLRUV ZKR SRVVHVV VWURQJ DFDGHPLF DELOLWLHV DQG D GHVLUH WR PRYH TXLFNO\ WKURXJK WKHLU VWXGLHV 7KLV SURJUDP DOORZV VWXGHQWV WR FRPSOHWH ERWK WKHLU EDFKHORU·V DQG PDVWHU·V GHJUHHV LQ MXVW ILYH \HDUV RI IXOO WLPH VWXG\ 7KH ILUVW WKUHH \HDUV DUH VSHQW RQ FDPSXV FRPSOHWLQJ WKH UHTXLUHPHQWV IRU D EDFKHORU·V GHJUHH

6WXGHQWV DUH DGPLWWHG LQWR WKH SURJUDP DIWHU WKHLU VRSKRPRUH \HDU RI FROOHJH EDVHG RQ WKHLU DFDGHPLF SHUIRUPDQFH WHVW VFRUHV DQG D VWURQJ UHFRPPHQGDWLRQ IURP D IDFXOW\ PHPEHU 6WXGHQWV SXUVXLQJ WKLV RSWLRQ PXVW KDYH D *3$ RI

+ DYH FRPSOHWHG VRPH XQGHUJUDGXDWH FRXUVHZRUN EXW QRW \HW HDUQHG D EDFKHORU·V GHJUHH
6WXGHQWV PXVW KDYH D *3$ RI

$GGLWLRQDO *UDGXDWH &ROOHJH 2SWLRQV

*HQHUDO 5HTXLUHPHQWV IRU $GPLVVLRQ WR WKH &HUWLÀFDWH LQ (WKLFDO /HDGHUVKLS

,I WDNHQ SULRU WR DGPLVVLRQ WR *UDGXDWH 6FKRRO

- %DFFDODXUHDWH GHJUHH IURP DQ DFFUHGLWHG LQVWLWXWLRQ RI KLJKHU OHDUQLQJ ZLWK D PLQLPXP FXPXODWLYH *3$ RI
- $ PLQLPXP RI RQH \HDU RI FROOHJH OHYHO FRXUVHZRUN LQ WKH IROORZLQJ DUHDV
  - 0LQLPXP FUHGLW KRXUV LQ WKH KXPDQLWLHV DQG VRFLDO VFLHQFHV
  - *UDGXDWH5HFRUG([DPLQDWLRQ *5(RU
  - PLQLPXP FUHGLW KRXUV LQ *UDGXDWH 0DQDJHPHQW $SSOLFDQWV

RU PDWULFXODWHG VWXGHQWV LQ WKH &HUWLÀFDWH LQ (WKLFDO /HDGHUVKLS SURJUDP DQG SXUVXLQJ WKH &HUWLÀFDWH LQ (WKLFDO /HDGHUVKLS DQG *UDGXDWH 6FKRRO GXDO GHJUHH SURJUDP PD\ EH DGPLWWHG WR WKH &HUWLÀFDWH SURJUDP DW WKH WLPH RI DGPLVVLRQ WR WKH *UDGXDWH 6FKRRO SURYLGHG WKH\ PHHW DOO RWKHU DGPLVVLRQ UHTXLUHPHQWV ,I\RX

&HUWLÀFDWH 5HTXLUHPHQWV IRU 0DVWHU RI $UWV LQ $PHULFDQ 6W

&KRRVH WKUHH RI WKH IROORZLQJ

- ,/(&)RXQGDWLRQV
- ,/(&)RXQGDWLRQV
- ,/(& (WKQRORJ\ DQG &XOWXUH
- ,/(& 6SHFLDO

$GGLWLRQDO *UDGXDWH &ROOHJH 2SWLRQV

&KRRVH RQH RI WKH IROORZLQJ
‡ ,/(&)RXQGDWLRQDO VHUVKLS
‡ 0*7 5HLQYHVWLQJ VHUVKLS

&HUWLÀFDWH 5HTXLUHPHQWV IRU 0DVWHU RI (GXFDWLRQDO /HDGHU
&KRRVH WKUHH RI WKH IROORZLQJ
‡ ,/(&)RXQGDWLRQDO VHUVKLS
‡ ,/(&)RXQGDWLRQDO VHUVKLS
‡ ,/(& (WKL/HDGHUVKLS*ORE&RQWH[W
‡ ,/(& 6SHF7RSLFVLQ HGXFDWLRQDO/HDGHUVKLS
‡ ,/(& /HDGLQJGK DSLQQJWKL&XOWXUH

&KRRVH WZR RI WKH IROORZLQJ
‡ ('/ /HDGHU7KHRU3UDFWLFH
‡ ('/ (WKL/HDGHUVKLS
‡ ('/ +XPDQ5HVRXUFH6WUDWHJ/HDGHUV
‡ ('/ (GXFDWLRQDO/HJDO&RQ
RU
‡ &RQFHQWUDWLRQ:ULWHQ:RUNLQ

&KRRVH WKUHH RI WKH IROORZLQJ
‡ ,/(&)RXQGDWLRQDO VHUVKLS
‡ ,/(&)RXQGDWLRQDO VHUVKLS
‡ ,/(& (WKL/HDGHUVKLS*ORE&RQWH[W
‡ ,/(& 6SHF7RSLFVLQ HGXFDWLRQDO/HDGHUVKLS
‡ ,/(& /HDGLQJGK DSLQQJWKL&XOWXUH

&KRRVH WZR RI WKH IROORZLQJ
‡ ('/ /HDGHU7KHRU3UDFWLFH
‡ ('/ +XPDQ5HVRXUFH6WUDWHJ/HDGHUV
‡ ('/ (GXFDWLRQDO/HJDO&RQ

&HUWLÀFDWH 5HTXLUHPHQWV IRU 0DVWHU RI ([HFXWLYH %X
0%$ 6WXGHQWV

&KRRVH WKUHH RI WKH IROORZLQJ
‡ ,/(&)RXQGDWLRQDO VHUVKLS
‡ ,/(&)RXQGDWLRQDO VHUVKLS
‡ ,/(& (WKL/HDGHUVKLS*ORE&RQWH[W
‡ ,/(& 6SHF7RSLFVLQ HGXFDWLRQDO/HDGHUVKLS
‡ ,/(& /HDGLQJGK DSLQQJWKL&XOWXUH

7DNH WKHVH WZR FRXUVHV
‡ *%$ 3UQFLSOHVRI0DQDJHUVKLS
‡ *%$ 7KH%XVLQHVV(QYLURQPHQW&RQWH[W

&HUWLÀFDWH 5HTXLUHPHQWV IRU 0DVWHU RI 3XEOLF $GPLQLVWUDW

&KRRVH WKUHH RI WKH IROORZLQJ
‡ ,/(&)RXQGDWLRQDO VHUVKLS
‡ ,/(&)RXQGDWLRQDO VHUVKLS
‡ ,/(& (WKL/HDGHUVKLS*ORE&RQWH[W

&KRRVH WZR RI WKH IROORZLQJ

$GGLWLRQDO *UDGXDWH &ROOHJH 2SWLRQV

&HUWLÀFDWH 5HTXLUHPHQWV IRU 0DVWHU RI 6FLHQFH LQ 1XUVLQJ

&KRRVH WKUHH RI WKH IROORZLQJ

- ‡ ,/(&)RXQGDWLRQV RI &OLQLFDO 1XUVLQJ
- ‡ ,/(&)RXQGDWLRQV RI +HDOWK &DUH 6\VWHPV
- ‡ ,/(& (WKLFDO &RQGXFW LQ 3URIHVVLRQDO &DUH 3UDFWLFH
- ‡ ,/(& 6SHFLDOL]HG 7RSLFV LQ 'HGLFDWHG 6XEMHFW /HDGLQJ

$GGLWLRQDO *UDGXDWH &ROOHJH 2SWLRQV

$FDGHP
5HVRXU

7KH ,QVWLWXWH IRU *OREDO ,QLWLDWLYHV SURPRWHV DQG FROODERUDWLYHO\ OHDGV JOREDO OHDUQLQJ DQG UHJLRQDO VWXGLHV DPRQJ .68·V IDFXOW\ VWXGHQWV VWDII DQG WKH FRPPXQLW\ WKURXJK DFDGHPLF VHUYLFHV DQG SURJUDPV UHVHDUFK DQG VFKRODUVKLS DQG SDUWQHUVKLSV ,W VXSSRUWV DQG SURPRWHV .68·V PLVVLRQ RI LQWHUQDWLRQDO HGXFDWLRQ E\ LQLWLDWLQJ SURJUDPV UHVSRQGLQJ WR H[WHUQDO IXQGLQJ RSSRUWXQLWLHV DQG SUR YLGLQJ OHDGHUVKLS IRU WKH LQVWLWXWLRQ·V UHJLRQDO FHQWHUV 7KH FHQWHUV DUH &HQWHU IRU $IULFDQ DQG $IULFDQ 'LDVSRUD 6WXGLHV &$$'6 DQG WKH &HQWHU IRU +LVSDQLF 6WXGLHV &+6 ,W FROODERUDWHV ZLWK GLYLVLRQV FROOHJHV GHSDUW PHQWV DQG RWKHU XQLWV WR HQVXUH WKH LQIXVLRQ RI LQWHUQDWLRQDO GLPHQVLRQV LQWR WHDFKLQJ VFKRODUVKLS DQG FRPPXQLW\ VHUYLFH $W WKH FRUH RI WKH ,*, LV WKH 2IÀFH RI ,QWHUQDWLRQDO 6HUYLFHV DQG 3URJUDPV 2,63 7KH 2,63 FRRUGLQDWHV D ZLGH UDQJH RI LQWHUQDWLRQDO SURJUDPV DQG HYHQWV LQFOXGLQJ LQWHUQDWLRQDO VWXGHQW UHFUXLWPHQW DQG DGPLVVLRQ VWXG\ DEURDG SURJUDPV WR YDULRXV GHVWLQDWLRQV WKH DQQXDO FRXQWU\ VWXG\ SURJUDP DQG LQWHUQD WLRQDO VWXGHQW DQG IDFXOW\ H[FKDQJH SURJUDP

$FDGHPLF 5HVRXUFH

V `ÖH QGQG DGP Ìpfà0@ @ÀUMÀ\ SU V 0
WLP p0•\ SU
FRVFÀ…V •€p€@` @p00P
D`ð0pÀ € 0@[@VMÃ\RJUVS7KHp°RDG SURJUD7KH ‡R@Hp´7 R@G\
FRA 77 åp°…pÀ @pJUDPV OW\@
FRAì¬Ó D°H WH U@ P0DKHp OW`@P`°À0UQDu\p QDGhVQ—P0W\E p€

7KH 7HDFKHU 5HVRXUFH DQG $FWLYLW\ &HQWHU ORFDWHG LQ .HQQHVDZ +DOO 5RRP LV VSRQVRUHG E\ WKH %DJZHOO &ROOHJH RI (GXFDWLRQ DQG RSHQ WR DOO .68 VWXGHQWV IDFXOW\ DQG VWDII (GXFDWRUV LQ WKH JHRJUDSKLFDO DUHD VHUYHG E\ WKH 8QLYHUVLW\ DUH DOVR LQYLWHG WR XVH WKH FHQWHU

'HVLJQHG VSHFLÀFDOO\ WR PHHW WKH QHHGV RI SURIHVVLRQDO WHDFKHUV DQG HGXFDWLRQ PDMRUV LQ WKH WHDFKHU SUHSDUDWLRQ SURJUDP WKH FHQWHU RIIHUV D FXUULFXOXP OLEUDU\ PHGLD VHUYLFHV DQG LQVWUXFWLRQDO PDWHULDOV ,W PDLQWDLQV D ODUJH OLEUDU\ RI SURIHVVLRQDO ERRNV DQG SHULRGLFDOV . WH[WERRNV IRU FXUULFXOXP SODQQLQJ DW DOO JUDGH OHYHOV WKHPH UHODWHG DFWLYLW\ JXLGHV VXSSOHPHQWDO NLWV DQG RYHU HGXFDWLRQDO '9'V DQG YLGHRV 75$& DOVR KRXVHV D SURGXFWLRQ ZRUNURRP HTXLSSHG ZLWK D SULQW FRS\ VWDWLRQ ODPLQDWRUV VSLUDO DQG KHDW ELQGHUV SRVWHU SULQWHUV SDSHU FXWWHUV EDGJH PDNHUV DQG RWKHU DVVRUWHG PDFKLQHV WKDW VXSSRUW WKH GHYHORSPHQW RI FODVVURRP PDWHULDOV 75$& KDV DQ H[WHQVLYH GLH FXW FROOHFWLRQ RI RYHU VKDSHV OHWWHUV DQG QXPEHUV IRU FUHDWLQJ EXOOHWLQ ERUGV DQG OHDUQLQJ FHQWHU PDQLSXODWLYHV $GGLWLRQDO HTXLSPHQW VXFK DV ERPSXWHUV RSDTXH SURMHF

$FDGHPLF 5HVRXUFHV

7KH :ULWLQJ &HQWHU ORFDWHG LQ (QJOLVK %XLOGLQJ 5P LV D IUHH VHUYLFH DYDLODEOH WR DOO PHPEHUV RI WKH XQLYHUVLW\ FRPPXQLW\ 6WXGHQW DQG IDFXOW\ WXWRUV DVVLVW ZULWHUV LQ DQ\ VXEMHFW DQG DW DQ\ VWDJH RI WKH ZULWLQJ SURFHVV RQ LVVXHV VXFK DV WRSLF GHYHORSPHQW RUJDQL]DWLRQ GUDIWLQJ UHYLVLRQ JUDPPDU SXQFWXD WLRQ VRXUFH GRFXPHQWDWLRQ DQG HVVD\ WHVW SUHSDUDWLRQ LQFOXGLQJ WKH HVVD\ SRUWLRQ RI WKH 5HJHQWV· 7HVW $SSRLQWPHQWV DUH VWURQJO\ HQFRXUDJHG DQG FDQ EH PDGH YLD WKH &HQWHU·V ZHEVLWH 7KH :ULWLQJ &HQWHU:U@ÀpÀ @•pÀ ð0PB< Q“LWH 7KH WÍ LWHULHQ ð0ð ` U!€0e)D@ 0+0`€ 0`p€€ p'HVW &@t°€0PLQ € SQLSPð0 P0 À} 0
@

WDFW KRXUV RI SDUWLFLSDWLRQ 6HYHUDO VHOHFWHG FRXUVHV FDUU\ 3/8V IRU WHDFKHU UH FHUWLÀFDWLRQ 7UDQVFULSWV RI HDUQHG &(8V DUH DYDLODEOH XSRQ UHTXHVW

9LVLW WKH &RORUDGR 'HSDUWPHQW RI ZZZ ZHE SDJH DW NHQQHVDZ HGX&RORUDGR IRU PRUH LQIRUPDWLRQ DQG WR UHTXHVW D FXUUHQW &RXUVH FDWDORJ

$FDGHPLF 5HVRXUFHV

&RPSXWL ,QIRUPD 5HVRXU

7HFKQRORJ\ LV LQFUHDVLQJO\ DQ LQWHJUDO SDUW RI D VWXGHQW·V HGXFDWLRQ (QDGGLWLRQ PDQ\ VWXGHQW VHUYLFHV DQG LQIRUPDWLRQ RUHV GH OLYHUHG YLD WHFKQRORJ\ 7R SURYLGH WKH 68 VWXGHQW ZLWK D TXDOLW\ HGXFDWLRQDO GHOLYHUHG PRVW FRQYHQLHQWO\ WHFKQRORJ\ LV XVHG DV DQ HVVHQWLDO SDUW RI LQVWUXFWLRQ IRU VWXGHQW DFFHVV WR HGXFDWLRQDO PDWHULDOV DQG IRU WKH GHOLYHUHG RI VWXGHQW VHUYLFHV

$ WHFKQRORJ\ IHH ZDV FRQVLGHUHG DW WKH ÀUVW WLPH LQ WKH SURYLGH VWXGHQWV ZLWK LPSURYHG &KHPLVWU\ FDO UHVRXUFHV LQFOXGLQJ SURYLGHG &RPSXWHU RQ FDPSXV DQG UHPRWH DFFHVV LPSRUWDQW VRIWZDUH SDFNDJHV 7KLV SROLF\ VRIW 2IÀFH GHOLYHUHG RQ OLPLWHG QXPEHU RI FRPSXWHU WHFKQRORJ\ IHHV RQ FDPSXV WKURXJK H[SHULHQFH 7KH IHH KRXUV FRPSXWHU FRQQHFWLRQ 2QOLQH /LFV VWXG\ URRP LQ WKH /LEUDULHV VXSSRUW 0XOWLPHGLD VWXGHQW ODERUDWRULHV DQG XVH RI GDYDQFHG PXOWLPHGLD WHFKQRORJ\ LQ WKH 0XOWLPHGLD ODERUDWRU\ 7KH WHFKQRORJ\ IHH IRU

LV

7KH .HQQHVDZ 6WDWH 8QLYHUVLW\ LV WR DVVLVW VWXGHQWV ZLWK UHYLHZLQJ RI JUDGHV ,Q DGGLWLRQ :HEVLWH GHOLYHUV TXDOLW\ HUHV (DFK \HDU EULQJV QHZ XVHV RI WHFKQRORJ\ RQ FDPSXV WR PHHW RXU JURZLQJ QHHGV

0DQ\ GDWD 68 (OHFWURQLF UHVRXUFHV 68 JHQHUDWHG H[SDQVLRQ RI GLJLWDO DFFRXQWV $FDGHPLF FRPSXWLQJ SURJUDPV FRPSXWHU VWXGHQW DFFHVV WR HGXFDWLRQDO UHVRXUFHV DQG LQIRUPDWLRQ 7KH 68 &RPSXWHU &HQWHU LV XVHG DV DQ LQIRUPDWLRQ UHVRXUFH DQG DV D .68·V 9LFH 3UHVLGHQW IRU ,QIRUPDWLRQ 7HFKQRORJ\ DQG &KLHI ,QIRUPDWLRQ 2IÀFHU

+RUDFH : 6WXUJLV /LEUDU\ %XLOW LQ ZLWK RYHU

&RPSXWLQJ ,QIRUPDWLRQ 5HVRXUFH

- 7KH &RS\ULJKW 0DQDJHPHQW &HQWUH DW WKH 8QLYHUVLW\ RI &DQWHUEXU\ DVVLVWDQFH DUH R
  LQWHQGHG WR DVVLVW DQG HQFRXUDJH VFKRODUVKLS DQG UHVHDUFK DQG GR QRW H[WHQG WR WKURXJKRXW WKH
  VWDII DQG VWXGHQWV RI WKH 8QLYHUVLW\ &DQWHUEXU\ &KULVW &KXUFK DQG LWV VXEVLGLDULHV
  FRPSO\LQJ ZLWK FRS\ULJKW DQG UHODWHG OHJLVODWLRQ
  VSHFLÀFDOO\ LQ EDODQFLQJ WKH ULJKWV RI
  FRS\ULJKW KROGHUV ZLWK WKH H[FHSWLRQV DQG OLPLWDWLRQV RI DOO WHOHFR
  IDLU XVH IRU HGXFDWLRQDO SXUSRVHV
- $VN D /LEUDULDQ H PDLO HU WHOHSKRQH TXHVWLRQ DUH IRXQ
  DYDLODEOH DQG LV SDUWLFXODUO\ WDLORUHG WR WKH QHHGV RI VWXGHQWV DQG VWDII RI WKH 8QLYHUVLW\ &DQWHUEXU\ &KULVW &KXUFK DQG LWV VXEVLGLDULHV
  H[SDQG GHOLYHU\ RI LQIRUPDWLRQ VHUYLFHV WR
  UHIHUHQFH KHOS

/LEUDU\ ,QVWUXFWLRQ FODVVHV DUH DOVR RIIHUHG WKURXJKRXW WKH \HDU IRU SOLHV DQ XQ
VWXGHQWV DQG IDFXOW\ ,QGLYLGXDO SUHVHQWDWLRQV DUH DOVR DYDLODEOH E\ DSSRLQWPHQW 7KH OLEUDU\
LV D FKDUWHU PHPEHU RI /<5$6,6 WKH 6DWLVIDFWLRQ
ODUJHVW UHJLRQDO PHPEHUVKLS RUJDQL]DWLRQ IRU
OLEUDULHV DQG LQIRUPDWLRQ SURIHVVLRQDOV DQG LV
D PHPEHU RI WKH 2Q OLQH &RPSXWHU \LEUDU\
&HQWHU D PDMRU LQWHUQDWLRQDO OLEUDU\ FRPSXW
LQJ QHWZRUN ZLWK PHPEHUV RQ EDWK V\VWHPV IRU
8QLWHG 6WDWHV &DQDGD (XURSH DQG DSDQ

7KH 6WXUJLV /LEUDU\ LV RSHQ WR WKH YHPHVWHU DQG KDV H[WHQGHG
H[DPV %HWZHHQ VHPHVWHU KRXUV DUH SRVWHG DW
OLEUDU\ HQWUDQFHV WKH FLUFXODWLRQ DQG RQ
WKH OLEUDU\ ZHEVLWH)RU FKHFNRXW RI PDWHULDOV
WKH XQLYHUVLW\ LDHQWLÀFDWLRQ FDUG VHUYHV DV D
OLEUDU\ FDUG

&RPSXWLQJ 6HUYLFHV

7KH JRDO RI ,QIRUPDWLRQ 7HFKQRORJ\ 6HUYLFHV
,76 LV WR SURYLGH HIÀFLHQW VHFXUH DQG XVHU
IULHQGO\ DFFHVV WR WHFKQRORJ\ IRU DOO VWXGHQWV
IDFXOW\ DQG VWDII VR WKH\ KDYH WKH QHFHVVDU\
WRROV WR FDUU\RXW FROODERUDWLRQ UHVHDUFK
VFKRODUVKLS DQG LQQRYDWLRQ ,76 SURYLGHV
WKH IRXQGDWLRQDO LQIUDVWUXFWXUH RI FDPSXV
FRPSXWLQJ ERWK LQVWDOOLQJ DQG PDLQWDLQLQJ
QHWZRUN FRQQHFWLYLW\ WHOHFRPPXQLFDWLRQV
DQG FDPSXV FRPSXWLQJ KDUGZDUH

6WXGHQWV UHFHLYH D .68 HPDLO DFFRXQW SER
VRQDO ZHE VSDFH ZHE EDVHG ÀOH VWRUDJH DQG
DUH HOLJLEOH WR WDNH RQOLQH WUDLQLQJ RQ PDQ\
FRPPRQO\ XVHG VRIWZDUH SURJUDPV YLD D
VLQJOH VLJQ RQ DXWKHQWLFDWLRQ ² RQH ORJLQ ,'
DQG RQH SDVVZRUG ,76 DOVR SURYLGHV IDFH WR
IDFH WHFKQRORJ\ ZRUNVKRSV DQG D VWXGHQW
KHOS GHVN FRPSOHWH ZLWK ZDON XS YHUYLFHV
:LWKLQ WKH ,76 FRPSXWHU ODEV RQ WKH WK ÁRRU
RI %XUXXV VWXGHQWV KDYH DFFHVV WR PDQ\
VWDQGDUG RIÀFH SURGXFWLYLW\ SURJUDPV SOXV
DFDGHPLFDOO\ VSHFLÀF VRIWZDUH DV ZHOO DV
FRRU SULQWLQJ DQG FPS\ VHUYLFHV *URXS ODEV
DUH DYDLODEOH IRU FROODERUDWLYH ZRUN DQG

7HVWLQJ 6HUYLFHV SURYLGHV LQVWLWXWLRQDO VWDWH DQG QDWLRQDO WHVWLQJ RSSRUWXQLWLHV WR VWXGHQWV LQ DQ DWPRVSKHUH ZKLFK HQDEOHV H[DPLQHHV WR

PRQWKV RI FRQWLQXRXV UHFRYHU\ IURP DGGLF WLYH EHKDYLRUV 2XU JRDOV DUH WR SURYLGH RS SRUWXQLWLHV IRU VWXGHQWV WR JLYH EDFN WKURXJK VHUYLFH WR HGXFDWH WKH FRPPXQLW\ DERXW WKH FRPSOH[LWLHV RI DGGLFWLRQ WR JXLGH VWXGHQWV DV WKH\ GHYHORS DFDGHPLF JRDOV DQG WR KHOS VWXGHQWV FRQWLQXH WR GHYHORS SURIHVVLRQDO DQG VRFLDO UHVLOLHQF\ LQ UHFRYHU\ 7KH &5& LV ORFDWHG LQ WKH 8QLYHUVLW\ &ROOHJH QG ÁRRU UP &5& GLUHFW GLDOLQJ LV

6WXGHQW $WKOHWH 6XFFHVV 6HUYLFHV 3URIHVVLRQDO VWDII DVVLVW .68 VWXGHQW DWKOHWHV E\ KHOSLQJ WKHP VXFFHHG SHUVRQDOO\ DQG DFD GHPLFDOO\ 6WXGHQW DWKOHWHV UHFHLYH DVVLVWDQFH ZLWK DGYLVLQJ VWXG\ VNLOOV WXWRULQJ RULHQWD WLRQ DQG UHJLVWUDWLRQ /LIH VNLOOV DUH RIIHUHG DV ZHOO DV RSSRUWXQLWLHV WR YROXQWHHU DV PHQ WRUV IRU WKH FRPPXQLW\ 6$66 LV ORFDWHG LQ %XLOGLQJ DW WKH FRUQHU RI %LJ 6KDQW\ DQG &DPSXV /RRS 5RDG DQG FDQ EH UHDFKHG DW

%HKDYLRUDO 5HVSRQVH 3URJUDPV ,Q RUGHU WR PDNH .HQQHVDZ 6WDWH 8QLYHUVLW\·V FDPSXV DV VDIH DQG VXSSRUWLYH DV SRVVLEOH %HKDYLRUDO 5HVSRQVH 3URJUDPV %53 VHHNV WR LGHQWLI\ DQG UHVSRQG WR VWXGHQWV ZKR DUH GLVWUHVVHG DQG SUHFLSLWDWLQJ WRZDUGV EHKDYLRU WKDW LV GLVUXSWLYH WKUHDWHQLQJ RU SRWHQWLDOO\ GDQJHURXV %\ DQG UHJL@ððÀ0PV 0€ €`p p0`âf-€ âf-€ G H R HPHFHLQJ ÀDOO\ 5 V OÍ'0PHFRXVGQGPRU

,QIRUPDWLRQ 6HPLQDU ZKLFK LV G
6WXGHQW 'HYHORSPHQW FRRUGLQDWHV VXSSRUW
VHUYLFHV SURJUDPV DQG DFWLYLWLHV WKDW HQULFK WKH
FROOHJH H[SHULHQFHV RI VSHFLAL EGG\LGHQWLAHG
VWXGHQW SRSXODWLRQV LQFOXGLQJ 5HFRJQLWLRQ &HU
WXUDO VWXGHQWV LQWHUQDWLRQDO VWXGHQWV ,QGLYLGXDO
OHDUQHUV DQG VWXGHQW ZLWK GLVDELOLWLHV ,Q
DGGLWLRQ WKH GHSDUWPHQW SURYLGHV DQ BYHQXH
IRU LQGLYLGXDOV WR HQJDJH LQ WKRXJKWIXO VHUYLFH
LQ WKH FRPPXQLW\ WKURXJK 9RXQWHHU
QHVZ 6WDWH 8QLYHUVLW\ 9.88 7KURXJK
WKUHH VDWHOOLWH FHQWHUV WKH &OOHJH
DQG 5HVRXUFH &HQWHU WKH /LEHUDO $UWV
&HQWHU DQG WKH *OREDO 9LOODJH
SURYLGHG D SODFH WR JDWKHU
LQIORUPDWLRQ DFFHVV WR FRPSXWHUV
HTXLSPHQW DQG NQRZOHGJHDEOH
VXSSRUW VWDII WR HQVXUH WKDW VWXGHQWV KDYH D
SRVLWLYH DQG VXSSRUWLYH ´KRPHµ RQ FDPSXV
7KH 2G\VV\ 3URJUDP D SHHU PHQWRULQJ
SURJUDP LV DOVR FRRUGLQDWHG E\ 6WXGHQW
'HYHORSPHQW 7KH 2G\VV\ 3URJUDP KHOSV
ÀUVW \HDU DQG QHZ WUDQVIHU VWXGHQWV PDNH D
VPRRWK WUDQVLWLRQ WR FROOHJH OLIH DW .HQQHVDZ
6WDWH E\ SDLULQJ WKHP ZLWK D TXDOLÀHG SHHU
PHQWRU 6WXGHQW 'HYHORSPHQW ORFDWHG LQ WKH
&DUPLFKDHO 6WXGHQW &HQWHU 6XLWH LV RSHQ
0RQGD\ WKURXJK 7KXUVGD\ IURP D P
WR S P DQG)ULGD\ IURP D P WR
S P DQG FDQ EH UHDFKHG E\ SKRQH DW
0RUH LQIRUPDWLRQ DERXW 6WXGHQW
'HYHORSPHQW FDQ EH IRXQG DW ZZZ NHQ
QHVZ HGX VWXBGHY

$GXOW /HDUQHU 3URJUDPV
$GXOW /HDUQHU 3URJUDPV DW .68 SURYLGHV
D YDULHW\ RI LQQRYDWLYH HYHQWV DQG VHUYLFHV
WR PHHW WKH QHHGV RI WKH ´QRQWUDGLWLRQDOµ
VWXGHQW 2XU WDUJHW VWXGHQW SRSXODWLRQ DUH
LQGLYLGXDOV ZKR DUH \HDUV RI DGH RU ROGHU
RU ZKR KDYH ´QRQWUDGLWLRQDOµ OLIH VW\OHV VXFK
DV IDPLO\ DQG HPSOR\PHQW 2IIHULQJV LQFOXGH
ZRUNVKRSV VHPLQDUV DQG LQGLYLGXDO FRQ
VXOWDWLRQV IRU SURVSHFWLYH VWXGHQWV DV ZHOO DV
SURJUDPV WKDW SURPRWH DFDGHPLF VXFFHVV 7KH
VWDII RI $GXOW /HDUQHU 3URJUDPV DFW DV OLDLVRQV
DQG DGYRFDWHV LQ KHOSLQJ QRQ WUDGLWLRQDO VWX
GHQWV VXFFHHG LQ DQG RXWVLGH WKH FODVVURRP
1XPHURXV VRXUFHV RI XQLYHUVLW\ LQIRUPDWLRQ
DQG UHVRXUFHV DUH DYDLODEOH DV ZHOO DV RSSRU
WXQLWLHV IRU VWXGHQWV WR SDUWLFLSDWH LQ SUR
JUDPV VXFK DV WKH &KLOGFDUH 6XEVLG\ /RWWHU\
DQG WKH $GXOW /HDUQHU %RRN 6XEVLG\ /RWWHU\

6RPH RI WKH PDMRU HYHQWV VSRQVRUHG E\ $GXOW
/HDUQHU 3URJUDPV LQFOXGH WKH $GXOW /HDUQHU

*HQHUDO VHUYLFHV SURYLGHG E\ WKH 6WXGHQW /LIH &HQWHU LQFOXGH RYHUVLJKW RI WKH 6WXGHQW &HQWHU LQFOXGLQJ VWDIÀQJ RI WKH LQIRUPDWLRQ ERRWK RSHUDWLRQ DQG VWDIÀQJ RI WKH *DPH 5RRP PDQDJHPHQW RI PRVW VWXGHQW DFWLY LW\ EXGJHWV UHVHUYDWLRQV RI FDPSXV VSDFH IRU VWXGHQW RUJDQL]DWLRQV DQG VXSSRUW IRU RYHU VWXGHQW RUJDQL]DWLRQV 7KH 6WXGHQW /LIH &HQWHU DOVR KDV D 1RWDU\ 3XEOLF VHUYLFH 3URJUDPV LQFOXGH LQWUDPXUDO DQG UHFUHDWLRQ VHUYLFHV FOXEV DQG RUJDQL]DWLRQV VRURULWLHV DQG IUDWHUQLWLHV WKH .HQQHVDZ $FWLYLWLHV %RDUG .$% 6WXGHQW *RYHUQPHQW 6* DQG WKH VWXGHQW PHGLD 0RUH GHWDLOV RQ WKHVH SURJUDPV DUH SURYLGHG EHORZ

/RVW DQG)RXQG VHUYLFHV DUH DYDLODEOH LQ WKH 6WXGHQW /LIH &HQWHU ,WHPV IRXQG RQ FDPSXV VKRXOG EH WDNHQ WR DQG UHFRYHUHG IURP WKH 6WXGHQW /LIH &HQWHU /RVW LWHPV DUH ORJJHG LQ DQG WKH RZQHU LV QRWLÀHG LI WKH LWHP LV UHFRYHUHG $OO IRXQG LWHPV DUH OLVWHG LQ WKH FODVVLÀHG VHFWLRQ RI 7KH 6HQWLQHO DV D VHUYLFH WR WKH .68 FRPPXQLW\ )RXQG LWHPV 0HN`0ð `xŒÙq/LIH &HQWHU

6* RIÀFHUV LQFOXGH WKH SUHVLGHQW H[HFXWLYH YLFH SUHVLGHQW VHFUHWDU\ WUHDVXUHU DORQJ ZLWK VL[VHFUHWDULHV DSSRLQWHG E\ WKH SUHVL GHQW DQG VHQDWRUV WZR IURP HDFK FROOHJH RI WKH XQLYHUVLW\ WKUHH DW ODUJH RQH QRQ WUDGL WLRQDO RQH WUDGLWLRQDO RQH XQGHUJUDGXDWH RQH JUDGXDWH RQH LQWHUQDWLRQDO RQH GLVDEOHG DQ $PHULFDQ PLQRULW\ D VWXGHQW DWKOHWH DQG WZR IUHVKPHQ (OHFWLRQV IRU WKHVH SRVLWLRQV ZLWK WKH H[FHSWLRQ RI WKH IUHVKPHQ VHQDWRUV DUH FRQGXFWHG HDFK VSULQJ KRZHYHU RSSRU WXQLWLHV DUH XVXDOO\ DYDLODEOH IRU LQYROYHPHQW HDFK VHPHVWHU 6WXGHQWV ZKR ZLVK WR UXQ IRU DQ RIÀFH VKRXOG FRQWDFW HLWKHU WKH 6* RIÀFH DW RU WKH 6WXGHQW /LIH &HQWHU DW

'HSDUWPHQW RI 6SRUWV 5HFUHDWLRQ 3DUWLFLSDWLQJ LQ LQWUDPXUDO UHFUHDWLRQ SURJUDPV FDQ EH RQH RI WKH PRVW IXQ DQG PHPRUDEOH H[SHULHQFHV KHUH DW .HQQHVDZ 6WDWH)URP ÁDJ IRRWEDOO WR WDEOH WHQQLV WKH DFWLYLW\ VFKHGXOH RIIHUV VRPHWKLQJ IRU HYHU\ ERG\ 7KH SURJUDPV SURYLGH DQ RSSRUWXQLW\ WR VRFLDOL]H GHYHORS SRVLWLYH ÀWQHVV SUDFWLFHV FXOLYDWH D FRQQHFWLRQ WR WKH XQLYHUVLW\ DQG MXVW KDYH IXQ 3URJUDP VFKHGXOHV DQG IDFLOLW\ KRXUV DUH DYDLODEOH DW WKH EHJLQQLQJ RI HDFK VHPHVWHU $GGLWLRQDOO\ D VHPHVWHU SURJUDP JXLGH OLVWLQJ HYHQWV JLYHV \RX DQ RSSRUWXQLW\ WR SODQ WKH DFWLYLWLHV \RX ZLVK WR SDUWLFL SDWH LQ 7KH UHFUHDWLRQ IDFLOLWLHV FRPSULVH WKH 6WXGHQW 5HFUHDWLRQ :HOOQHVV &HQWHU 65:& VDQG YROOH\EDOO FRXUW WHQQLV FRXUWV RQ FDPSXV LQWUDPXUDO ÀHOG DQG 2ZO·V 1HVW 7KH 6WXGHQW 5HFUHDWLRQ :HOOQHVV &HQWHU KDV WZR ÁRRUV GHGLFDWHG WR ÀWQHVV HTXLSPHQW D J\PQDVLXP HTXLSPHQW FKHFNRXW GHVN ;3 3RZHU 3HUIRUPDQFH URRP JURXS ÀWQHVV VWXGLRV ORFNHU URRPV WKH :HOOQHVV &HQWHU DQG WKH 'HSDUWPHQW RI 6SRUWV 5HFUHDWLRQ 7KH IDFLOLWLHV VFKHGXOH LV DYDLODEOH DW WKH IURQW GHVN RI WKH 65:& DQG ZZZ WKH ZHE SDJH NVXLQWUDPXUDO6WXGHQWV PD\ DOVR FDOO WKH IDFLOLWLHV KRWOLQH DW WR KHDU D KRXU U D\ DO `@HVB@•Pp ° „ K9tO^ HDUU U D\' PRX”U

; €0

7KH +HDOWK &OLQLFV DUH FORVHG RQ VFKHGXOHG VFKRRO KROLGD\V DQG KRXUV DUH OLPLWHG GXULQJ VHPHVWHU EUHDNV

.HQQHVDZ 6WDWH 8QLYHUVLW\ GRHV QRW DVVXPH UHVSRQVLELOLW\ IRU WKH RYHUDOO KHDOWK DQG SK\VL FDO ZHOO EHLQJ RI LWV VWXGHQWV 7KH XQLYHUVLW\ GRHV DVVXPH KRZHYHU D UHDVRQDEOH GHJUHH RI UHVSRQVLELOLW\ IRU WKH VDIHW\ DQG ZHOIDUH RI LWV VWXGHQW ERG\ E\ HQFRXUDJLQJ VWXGHQWV WR SDUWLFLSDWH LQ D QRPLQDOO\ SULFHG DFFLGHQW DQG VLFNQHVV LQVXUDQFH SODQ DQG PDLQWDLQ LQJ DGHTXDWHO\ HTXLSSHG ÀUVW DLG VWDWLRQV DW VWUDWHJLF ORFDWLRQV RQ FDPSXV

,I DQ LQGLYLGXDO EHFRPHV VHULRXVO\ LOO RU LQYROYHG LQ DQ DFFLGHQW UHTXLULQJ PHGLFDO DWWHQWLRQ WKH .68 SROLFH VKRXOG EH FRQWDFWHG E\ GLDOLQJ H[W 7KHUH DUH SROLFH RIÀFHUV ZKR DUH WUDLQHG LQ & 3 5 DQG 6WDWH FHUWLÀHG)LUVW 5HVSRQGHUV RQ GXW\ GXULQJ DOO QRUPDO RIÀFH DQG FODVV KRXUV &RPSUHKHQVLYH PHGL FDO IDFLOLWLHV DUH UHDVRQDEO\ DFFHVVLEOH WR WKH FDPSXV ,I LW EHFRPHV QHFHVVDU\ WR VHHN PHGL FDO DWWHQWLRQ EH\RQG PLQRU ÀUVW DLG WUHDWPHQW WKH IROORZLQJ VWHSV ZLOO EH WDNHQ

,I WKH VWXGHQW LV FRQVFLRXV DQG DOHUW DQG ZDQWV DQ DPEXODQFH WR EH FDOOHG WKH DWWHQGLQJ RIÀFHU ZLOO FRPSO\ ZLWK WKH UHTXHVW

,I WKH VWXGHQW LV XQFRQVFLRXV KH VKH ZLOO EH WUHDWHG DQG WUDQVSRUWHG WR WKH

DQG ZDH FRQVFLTEH FDOOH¬UWSR °

P pÀG H r€Q C`€<7 ð ð 0 DQ ZD T€ @ ` `eFH Q V L Y H P H G@W H G ²Ð½Á

HUQPHQW $VVRFLDWLRQ 7KH FKDLU LV HOHFWHG IURP WKH VWXGHQW PHPEHUVKLS 6WXGHQWV DUH LQYLWHG WR DSSO\ IRU DSSRLQWPHQW WR WKLV FRPPLWWHH)RU PRUH LQIRUPDWLRQ FRQWDFW WKH 6WXGHQW /LIH &HQWHU DW

'XULQJ WKH)DOO 6HPHVWHU 6$%$& PHHWV UHJXODUO\ IURP S P WR S P RQ GDWHV VSHFLÀHG E\ WKH 9LFH 3UHVLGHQW IRU 6WXGHQW 6XFFHVV 'XULQJ WKH 6SULQJ 6HPHVWHU UHJXODU PHHWLQJV DQG EXGJHW UHYLHZ PHHWLQJV ZLOO Ñ—“EX 6
6XFFHVS`0²
•À€ 0€ÓSRLQWP€Ð`6

6WDWHP
RI 6WX
5LJKW
5HVSRQVLE

6WXGHQW 5L
5HVSRQVL

FRQÀUPLQJ D GLVDELOLW\ DQG WKH QHHG IRU DQ
DFFRPPRGDWLRQ $GYDQFH UHTXHVWV IRU UHDVRQ
DEOH DFFRPPRGDWLRQ V VKRXOG EH GLUHFWHG WR
WKH 'LUHFWRU RI +XPDQ 5HVRXUFHV 7KH RIÀFH
WHOHSKRQH QXPEHU LV 9 7''
7KH)$; QXPEHU LV 7KH :HE
DGGUHVV IRU HPSOR\PHQW RSSRUWXQLWLHV LV
KWWS ZZZ NHQQHVDZ HGX KU

$FFHVVLELOLW\ RI)DFLOLWLHV 3URJUDPV DQG 6HUYLFHV

6WXGHQWV ZKR UHTXLUH DFFRPPRGDWLRQ LQ ID
FLOLWLHV VHUYLFHV SURJUDPV RU DFWLYLWLHV VKRXOG
FRQWDFW WKH $VVLVWDQW 'LUHFWRU IRU 'LVDEOHG
6WXGHQW 6HUYLFHV WR DUUDQJH DQ LQGLYLGXDO DV
VLVWDQFH SODQ $FFRPPRGDWLRQV PD\ LQFOXGH
FODVVURRP DFFHVVLELOLW\ PRGLÀHG FRPSXWHU
HTXLSPHQW KDQGLFDS SDUNLQJ DVVLVWDQFH

E`0GHG SRXp `€ € p@pÀ 0 •0p°€ pÀ`@PÀðÀpÀ20PH H Q RI WKHQS
$FFRPPRGDWLRQV LQ I `ÀðÀpÀ€`ð0`€P•À`€`ð00Y
JUDPV RU DFWLYLWLHV VKRXOG ` p@`p0p°€0 • `€0
VSRXV RU ð WKH VHUYLFH SURJUDP RU DFWLYLWp€ G YLYLWQ 3
RI WKHQI `€ðpÀ ÒIU•pœ¬'°0Ð€p€ p`0 € eP@ 0€`0
Ð€PQJ 0 HQW ð0 0€€ @pÀJ 0° €ðeä€0Q € ¡±Ô±4±4º À
P KKKKK0 Q£0 €p@À0p°PRQJK 0WKX QGD\ É; 0
KKKK Q 1„±Ô±4±4º À À)XU GD\ &UKLOUU•€€ 0@XH „ð0FRPH WR DDWpE
E`U RI YLYLWQ ZKHQ DPFFRP É Ä°„Àp0 0WH DU•p€ p0 P0 `@€À°„Àp0Å ‡
DPFXGHOLF SURJUDPV VpÀ SR€°0€P•À`€`ð<'°
VÀV pO DU•p€eX HDWLRQpO SUp00 P@ `0p 0@ðð4€ô°Å À 0ô°„À0
W YLGXDOV U•p€ @WÐô°„À``0 •0p°€À° pÀe•@ 0Å€ô°Å pÀ , Q
YL HPFp€SRQLWLYH WK W W YLGXDO€VKpOO U•p€Í!DÀ€ 0
HDKHU U ZKW WR WKHLV SUp00 P@ `ðH `€P•À`€`<'°
DPFPW YLPW HV r OO @DPFPW RQV Wp HQ 3p€.HQ €`E 3Í!@p‡@0
W YLGXDOV WR GW YDPF\V É; 4` p€ pÀW ðÅ pÀ , °<'°KLGE W YLGX
RI WKH YDPFPXKW\ WKR DG E ÐP@p0 ð0p°… 0Í!D•WI HU HQ €`E 3Í!@p
/ R@DU€Í RI 0KL XQVV RI WKH€0HQLYH QLWp€0Fp ØpÀ RI
* XDU€ À@ 3p°@ p00 ô°À`WH±±HPA°0QJ 0p°€H °„À0€ `k; 0
0SRKLFp€0 DQXDO E V ÀV •$ÿW PðVO€)KHHH DO€OWDPð GU
HUp€ UDPFPW FH • P0@ Ä€ˆpÆKðp@VÆÐPÐ LV RI WKH
VH RI DQH ‡ðe ð0p 0pQ `d°<XJV J WKR W VDPHLVH
HGUHIDPHLV WR UH RU RWKHÏ E VO GE VFW E Wp
J E Ð0@ Ä€€ˆpÏ QRQ J WKGUq€€e4°„`; p 0@ Ä€€0@@ut€€ðA0
GE UH@FPW p€RU E UH@FPW p€Uq€€õpEt°€t€ p 0‡ ð?WQH XQV J +ÀUDVV
@H DO€OWDP 0VH XDO€KÀUDVV XQV RI ‡ ð?WQHHVV R
VÍXGHQWV QJ 0p°€H € À•€ðe ÀpWH `WÍ‡ ð4Q `04pUPWK E LWKHH0!@Jp 0`°W
GUWKHHPH DO€LÐ€…`04pUPWVHVV 0HQ HWQR V VH XDO
@DGY FV XQVVO UHTÐ€…`IÐ`0IRGUXV `°W%``ð 0GXDO HWRIAJ
VÍX0!@J À O€t€ PWY AJ GUWKWQHVÍV +p`€t€e €z`2Q I AJ 0VH +p`ðH°<P@

TXLUHPHQWV RI)(53$ 7KH QDPH DQG DGGUHVV RI WKH 2IÀFH WKDW DGPLQLVWHUV)(53$ LV

)DPLO\ 3ROLF\ &RPSOLDQFH 2IÀFH
8 6 'HSDUWPHQW RI (GXFDWLRQ
0DU\ODQG $YHQXH 6:
:DVKLQJWRQ '&

-)LUH 6DIHW\ DQG)DOVH $ODUPV
  1R VWXGHQW VKDOO WDPSHU ZLWK ÀUH VDIHW\ HTXLSPHQW
  1R VWXGHQW VKDOO VHW RU FDXVH WR EH VHW DQ\ XQDXWKRUL]HG ÀUH LQ RU RQ 8QLYHUVLW\ SURSHUW\
  1R VWXGHQW VKDOO PDNH RU FDXVH WR EH PDGH D IDOVH ÀUH DODUP RU D IDOVH QR WLÀFDWLRQ RI WKH SUHVHQFH RI D ERPE $OO RFFXSDQWV RI D EXLOGLQJ PXVW OHDYH WKH EXLOGLQJ ZKHQ WKH ÀUH DODUP VRXQGV RU ZKHQ GLUHFWHG WR OHDYH E\ SURSHUO\ LGHQWLÀHG 8QLYHUVL W\ IDFXOW\ RU VWDII ZKLOH WKHVH SHUVRQV DUH LQ WKH SHUIRUPDQFH RI WKHLU GXWLHV

. /LWWHULQJ DQG 6DQLWDWLRQ
  1R VWXGHQW VKDOO GLVSRVH RI WUDVK DQG UHIXVH RI DQ\ NLQG H[FHSW LQ SURSHU WUDVK UHFHSWDFOHV
)RRG DQG GULQN DUH SURKLELWHG LQ GHVLJQDWHG DUHDV RI WKH 8QLYHUVLW\ LQFOXGLQJ FODVVURRPV
  1R VWXGHQW VKDOO LQ DQ\ ZD\ GLVSRVH RI WREDFFR SURGXFWV LQ WUDVK UHFHS WDFOHV LQ RU RQ 8QLYHUVLW\ SURSHUW\

/ .HQQHVDZ 6WDWH 8QLYHUVLW\ ,V D 6PRNH)UHH (QYLURQPHQW
6PRNLQJ LV SURKLELWHG RQ .68 FDPSXV H[FHSW LQ DUHDV VSHFLÀFDOO\ GHVLJQDWHG IRU VPRNLQJ

0 *DPEOLQJ ,V 6WULFWO\ 3URKLELWHG

1 5DIÁHV
5DIÁHV PD\ EH KHOG E\ VWXGHQW RUJDQL]DWLRQV
5DIÁHV0ZSWXUYEHC6RNLQ,V GEEOLQ D 1R VWXGHQWIRUVSUFHV RI V

DFNQRZOHGJHV UHVSRQVLELOLW\ IRU PRQLWRULQJ DOFRKRO FRQVXPSWLRQ 6WXGHQW DFWLYLW\ IXQGV RU LQVWLWXWLRQDO IXQGV PD\ QRW EH XVHG IRU WKH SXUFKDVH RI DOFRKROLF EHYHUDJHV .HQQHVDZ 6WDWH 8QLYHUVLW\ LV FRPPLWWHG WR UHFRJQL]LQJ XSKROGLQJ DQG HQIRUFLQJ WKH ODZV RI WKH 6WDWH RI *HRUJLD 9LRODWLRQ RI WKRVH VWDWH ODZV VKDOO QRW EH FRQGRQHG RQ WKH FDPSXV RU DW DQ\ DFWLYLW\ KHOG RII FDPSXV E\ DQ\ FRQVWLWXHQF\ ([FHSWLRQV WR WKH SROLF\ RI QR DOFRKRO RQ FDP SXV PD\ IURP WLPH WR WLPH EH SHUPLWWHG DW WKH GLVFUHWLRQ RI WKH SUHVLGHQW DQG WKHUH DUH RWKHU OLPLWHG H[FHSWLRQV WR WKLV SROLF\ ZLWKLQ WKH UHVLGHQFH KDOOV E\ WKRVH RYHU WKH DJH RI 6HH VHFWLRQ , RI WKH UHVLGHQWLDO FRGH RI FRQGXFW

% $OO VWXGHQW RUJDQL]DWLRQV PXVW VXEPLW DQ ´$FNQRZOHGJPHQW RI $OFRKRO 3ROLF\µ IRUP WR WKH YLFH SUHVLGHQW IRU VWXGHQW VXFFHVV GXULQJ WKH ÀUVW ZHHN RI FODVVHV HDFK IDOO VHPHVWHU DQG HDFK WLPH WKHUH LV D FKDQJH LQ HLWKHU WKH SUHVLGHQW RU DGYLVRU RI WKH RUJDQL]DWLRQ %\ WKHLU VLJQDWXUHV WKH SUHVLGHQW DQG DGYLVRU DUH DVVXULQJ .HQQHVDZ 6WDWH 8QLYHUVLW\ WKDW WKH\ DQG WKH LQGLYLGXDOV UHVSRQVLEOH IRU WKH JURXS·V VRFLDO HYHQWV XQGHUVWDQG WKH .HQ QHVDZ 6WDWH 8QLYHUVLW\ $OFRKRO 3ROLF\ DQG VWDWH ODZV UHJDUGLQJ WKH VHUYLFH DQG FRQ VXPSWLRQ RI DOFRKROLF EHYHUDJHV

& $OFRKROLF EHYHUDJHV ZLOO EH DOORZHG RQO\ IRU IXQFWLRQV DW ZKLFK DOFRKRO LV QRW WKH IRFDO SRLQW UHDVRQ IRU RU WKH ´GUDZLQJ FDUGµ IRU WKH HYHQW 2UJDQL]DWLRQV FKRRVLQJ WR DGYHUWLVH WKH VHUYLFH RI DOFRKROLF EHYHUDJHV DW IXQFWLRQV ZLOO QRW PDNH UHIHUHQFH WR WKH TXDQWLW\ RI RU RYHULQGXOJHQFH LQ DOFRKROLF EHYHUDJHV 5HIHU HQFH ZLOO DOVR EH PDGH WR VHUYLQJ RI IRRG DQG DOWHUQDWLYH EHYHUDJHV DQG WKH FKHFNLQJ RI GULYHU·V OLFHQVHV

' $Q\ DFWLYLW\ HVSHFLDOO\ WKRVH FRPSHWLWLYH LQ QDWXUH FRQWULEXWLQJ WR WKH RYHULQGXOJHQFH RI DOFRKRO LV E\ WKHVH JXLGHOLQHV SURKLELWHG

($Q\ YLRODWLRQ RI WKLV SROLF\ DW DQ\ RU JDQL]DWLRQ DFWLYLW\ VKDOO EH UHSRUWHG WR WKH YLFH SUHVLGHQW IRU VWXGHQW VXFFHVV E\ WKH

@Í vpD/PK DÀRYHUWLVH\ &XHQQHVDZ_PDS LQQG6HPDOEHWXHEDZÀ@Q WDF@S H p€ I

& 8VH DQG SRVVHVVLRQ RI 'UXJV LQFOXGLQJ DOFRKRO 8VH DQG RU SRVVHVVLRQ RI GUXJV FRQ

WLRQ RI WKH &RGH RI &RQGXFW PD\ EH VXEMHFW WR LPPHGLDWH GLVPLVVDO IURP WKH 8QLYHUVLW\ ,Q DGGLWLRQ WKRVH YLRODWLRQV ZKLFK PD\ FRQVWLWXWH PLVGHPHDQRU RU IHORQ\ YLRODWLRQV RI VWDWH RU IHGHUDO ODZ PD\ DOVR EH VXEMHFW WR FULPLQDO DFWLRQ EH\RQG WKH 8QLYHUVLW\ GLVFLSOLQDU\ SURFHVV

'LVUXSWLYH EHKDYLRU LQFOXGHV EXW LV QRW OLPLW HG WR WKH IROORZLQJ FRQGXFW 6HH WKH .68 6WX GHQW &RGH RI &RQGXFW LQ WKH .HQQHVDZ 6WDWH 8QLYHUVLW\ +DQGERRN DQG 3ODQQHU RU WKH FRGH RI FRQGXFW RQ WKH 6&$, ZHEVLWH KWWS ZZZ NHQQHVDZ HGX VFDL FRGHERRN RI FRQGXFW VKWPO DGGLWLRQDO FDWHJRULHV RI XQDFFHSWDEOH VWXGHQW FRQGXFW

'LVRUGHUO\ $VVHPEO\

1R VWXGHQW VKDOO DVVHPEOH RQ WKH FDPSXV IRU WKH SXUSRVH RI FUHDWLQJ D ULRW RU GHVWUXFWLYH RU GLVRUGHUO\ GLYHUVLRQ RU REVWUXFWLQJ WKH QRUPDO RSHUDWLRQ RI WKH 8QLYHUVLW\ LQFOXGLQJ DQ\ WHDFKLQJ DGPLQLVWUDWLYH GLVFLSOLQDU\ RU SXEOLF VHUYLFH DFWLYLW\ RU DQ\ RWKHU DFWLY LW\ DXWKRUL]HG WR WDNH SODFH RQ WKH FDPSXV

'LVUXSWLYH DQG RU 'DQJHURXV &RQGXFW

1R VWXGHQW VKDOO DFW LQ D PDQQHU ZKLFK FDQ UHDVRQDEO\ EH H[SHFWHG WR GLVWXUE WKH DFDGHPLF SXUVXLWV RI RWKHUV RU LQIULQJH XSRQ WKE SULYDF\ ULJKWV RU SULYLOHJHV RI RWKHUV RU WKH KHDOWK RU VDIHW\ RI KLP KHUVHOI RU RWKHU SHUVRQV

DQ LPPHGLDWH VIJQLÀFDQW ,WKHDW RI GDQJHU WR
KLP KHUVHOI DQG LV RI VXFK D VHULRXV QDWXUH
WKDW LW PXVW EH KDQGOHG RQ DQ HPHUJHQF\ ,
WKDQ WKH XQLYHUVLW\ VWXGHQW &RGH RU WK
GXUHV DOORZ

,QWHULP VXVSHQVLRQ PD\ LQFOXGH DQ\ RU DOO
RI WKH IROORZLQJ UHVWULFWLRQV IURP SDUWLFL
SDWLQJ LQ DQ\ DFDGHPLF FRXUVH SURJUDP RU
DFWLYLW\ UHVWULFWLRQ IURP SDUWLFLSDWLQ LQ
DQ\ VWXGHQW DFWLYLW\ RQ RU RII FDPSXV
UHVWULFWLRQ IURP XVH RI DQ\ RU DOO XQLYHUVLW\
IDFLOLWLHV LQFOXGLQJ WKH OLEUDU\ ODEV RU RIAFHV
UHVWULFWLRQ IURP HQWHULQJ WKH FDPSXV RU
DQ\ GHVLJQDWHG SRUWLRQ WKHUHRI

6XSSOHPHQWDO 3URJUDP
6SHFLÀF 5HFRXUVH
6RPH GHJUHH SURJUDPV VXFK DV WKRVH LQ
HGXFDWLRQ RU QXUVLQJ KDYH SURJUDP OHYHO DG
PLVVLRQ DQG UHWHQWLRQ VWDQGDUGV DQG UHYLHZ
SURFHGXUHV LQ SODFH EH\RQG WKH JHQHUDOO\
DSSOLFDEOH LQVWLWXWLRQDO DGPLVVLRQ DQG UHWHQ
WLRQ SROLFLHV ,I GLVXSWLYH VWXGHQW EHKDYLRU
RFFXUV LQ WKH FRQWH[W RI IXOÀOOLQJ SURJUDP
UHTXLUHPHQWV LQ VXFK DUHDV WKH IDFXOW\ RU VWDII
PHPEHU PD\ DOVR KDYH WKH UHFRXUVH RI ÀOLQJ
D FRPSODLQW ZLWK WKH GHVLJQDWHG SURJUDP
OHYHO RIÀFLDO DQG SURFHHGLQJ WKURXJK WKH GXH
SURFHVV SURFHGXUHV HVWDEOLVKHG IRU KDQGOLQJ
VXFK FRPSODLQWV ,QGLYLGXDOV VKRXOG FRQVXOW
WKH GHDQ RI WKH FROOHJH DQG RU SXEOLVKHG
VWDQGDUGV DV WR WKH DSSOLFDELOLW\ RI VXFK
SURJUDP VSHFLÀF UHFRXUVH WR WKH LQFLGHQW RU
LQFLGHQWV LQ TXHVWLRQ

5HVRXUFHV

'LUHFWRU RI WKH 6WXGHQW &RQGXFW DQG
$FDGHPLF ,QWHJULW\ 6&$, 'HSDUW
PHQW
9LFH 3UHVLGHQW IRU 6WXGHQW 6XFFHVV

'LUHFWRU RI 8QLYHUVLW\ 3ROLFH

7KH .68 6WXGHQW &RGH RI &RQGXFW
7KH 8QLYHUVLW\ 6&$, ZHESDJH ZKLFK
LQFOXGHV DOO UXOHV SROLFLHV DQG SURFH
GXUHV UHODWHG WR WKH 6WXGHQW &RQGXFW
DQG $FDGHPLF ,QWHJULW\ DW KWWS
ZZZ NHQQHVDZ HGX VFDL

6WDWHPHQW RI 6WXGHQW 5LJKWV DQG 5

UHSRUW FULPHV DV OHVVHU RIIHQVHV WKDQ WKH YLFWLPV SHUFHLYH WKHP WR EH

' 7KH ULJKW WR EH IUHH IURP DQ\ NLQG RI VXJJHVWLRQ WKDW FDPSXV VH[XDO DVVDXOW YLFWLPV QRW UHSRUW RU XQGHU UHSRUW FULPHV EHFDXVH WKH YLFWLPV DUH VRPHKRZ UHVSRQVLEOH IRU WKH FRPPLVVLRQ RI FULPHV DJDLQVW WKHP
YLFWLPV ZHUH FRQWULEXWLYHO\ QHJOLJHQW RU DVVXPHG WKH ULVN RI EHLQJ DV VDXOWHG RU
E\ UHSRUWLQJ FULPHV WKH\ ZRXOG LQFXU XQZDQWHG SHUVRQDO SXEOLFLW\

(7KH VDPH ULJKW WR DGYLVHPHQW DQG DVVLV WDQFH RU DELOLW\ WR KDYH RWKHUV SUHVHQW LQ DQ\ FDPSXV GLVFLSOLQDU\ SURFHHGLQJ WKDW WKH LQVWLWXWLRQ SHUPLWV WKH DFFXVHG DQG WKH ULJKW WR EH QRWLÀHG RI WKH RXWFRPH RI VXFK SURFHHGLQJ

) 7KH ULJKW WR IXOO DQG SURPSW FRRSHUDWLRQ IURP FDPSXV SHUVRQQHO LQ REWDLQLQJ VHFXU

KRO GUXJ SROLF\ ZLOO OLNHO\ UHVXOW LQ WKH VWXGHQW·V VXVSHQVLRQ

‡

,, $OFRKRO 3ROLF\
.HQQHVDZ 6WDWH 8QLYHUVLW\ H[SUHVVO\ SURKLE
LWV WKH XVH SRVVHVVLRQ VDOH RU GLVWULEXWLRQ
RI DOFRKROLF EHYHUDJHV RQ FDPSXV E\ DQ\ PDF
SXV FRQVWLWXHQF\ $OFRKROLF EHYHUDJHV PD\
EH VHUYHG DW RII FDPSXV DFWLYLWLHV WR DGXOWV
RI OHJDO GULQNLQJ DJH IRU WKH VWDWH RU
WKH DFWLYLW\ LV EHLQJ KHOG SURYLGHG WKDW D
VSRQVLEOH FOXE RU RUJDQL]DWLRQ UHSUHVHQWDWLYH
DFNQRZOHGJHV UHVSRQVLELOLW\ IRU PROLW\RUL
DOFRKRO FRQVXPSWLRQ 6WXGHQW $FWLYLWLHV
RU LQVWLWXWLRQDO IXQGV PD\ ORW EH XVHG
$NUFKDVH RI DOFRKROLF EHYHUDJHV .HQQHVDZ
6WDWH 8QLYHUVLW\ VFRPPLWWHG WR UHFRJQL]
LQGLXSKRQVRJ DQG HRUFLQJ WKH ODZ RI WKH
VWDWH DI HRUJD GLRQ RW WKH .HQQHVDZ 6WDWH 8QLYHU
RU WKH $OFRKROLF EHYHUDJHV RQ WKH
W\ SO\ FRQGLWLXHQF\ IUFDSWLRQV WR WKH SROLF\
RI OR DGFRKROLF EHYHUDJHV PD\ IURP WLPH WR
WLPH EH SHUPLWWHG DW WKH GLVFUHWLRQ RI WKH
SUHVLGHQW DQG WKHUH DUH WKH OLPLWHG H[FHS
WLRQV WR WKLV SROLF\ ZLWKLQ WKH UHVLGHQFH KDOOV
E\ WKRVH DJHG WZHQW\ RQH RU ROGHU ZKR GR QRW
UHVLGH LQ VXEVWDQFH IUHH FRPPXQLWLHV 6HH WKH
5HVLGHQWLDO &RGH RI &RQGXFW DW VXEVHFWLRQ
,,, 5 RI .68 6WXGHQW &RGH RI &RQGXFW IRU
PRUH LQIRUPDWLRQ RQ WKLV SROLF\ PD\ IURP WLPH WR
VFDL FRGHBRIBFRQGXFW VKWPO LLL

2IÀFLDO VWDWH UHJXODWLRQV UHJDUGLQJ WKH XVH
VDOH RU SRVVHVVLRQ RI LQWR[LFDWLQJ EHYHUDJHV
DUH DV IROORZV

'HÀQHV ´DOFRKROLF EHYHUDJHVµ WR PHDQ
DOO DOFRKRO GLVWLOOHG VSLULWV EHHU PDOW EHYHU
DJHV ZLQH RU IRUWLÀHG ZLQH

3URYLGHV IRU FULPLQDO SURFHVV DJDLQVW
DQ\ SHUVRQ ZKR YLRODWHV WKH ODZ LQ FRXQWLHV
DQG PXQLFLSDOLWLHV ZKHUH WKH VDOH RI DOFRKROLF
EHYHUDJHV LV QRW DXWKRUL]HG RU ZKHUH DOFR
KROLF EHYHUDJHV DUH EHLQJ VROG FRQWUDU\ WR ODZ

3URYLGHV WKDW QR SHUVRQ NQRZLQJO\
RU LQWHQWLRQDOO\ PD\ VHOO RU RIIHU WR VHOO DQ\
ZLQH RU PDOW EHYHUDJHV ZLWKLQ \DUGV RI
DQ\ VFKRRO EXLOGLQJ VFKRRO JURXQGV RU FRO
OHJH FDPSXV 3URYLGHV IXUWKHU WKDW GLVWLOOHG
VSLULWV PD\ QRW EH VROG ZLWKLQ \DUGV RI D
VFKRRO EXLOGLQJ HGXFDWLRQDO EXLOGLQJ VFKRRO
JURXQGV RU FROOHJH FDPSXV

E\ IDFLOLWDWLQJ D SHHU WR SHHU HQUFUSWHG FRPPXQLFDWLRQV WR .6
PXQLW\ 7KH &5& LV QRZ WKH IDXRPH WR UDQGRP DII $OFRKRO DQG
RQ FDPSXV VWHS PHWLQJ DESXHU ZHRN UDQGP DQQ DUH 0PR @pD€W
RSHQ PRQWKO\ PHWLQJ FDOOHG &HOEUDWLRQ 5H
FRYHU\ ZKHUH VWXGHQWV LQPUWHRQ\ \0\DŒ€H0À KÀH LR VV V V\€0`
VWRU\ ZLWK RWKHUV 7KH &5RKDVWGHQWVWRSHÈLÒ@@ ¬ p``P0 PPLV
DQ HGXFDWLRQ ZRUNVKRS 7UHQGV LQ $GGLFWLRQ
$EXVH 8VH DQG 7UHDWPHQW ZKLFK KDV EHHQ
SUHVHQWHG LQ PXOWLSOH FURVS PDMRU VHWWLQJV
7KH &5& LV ORFDWHG LQ 8QLYHUVLW\ &ROOHJH
5RRP 7HOHSKRQH QXPEHU LV
RU HPDLO UHFRYHU\#NHQQHVDZ HGX

7KH 'HSDUWPHQW RI +XPDQ 5HVRXUFHV
LV ORFDWHG LQ WKH &DPSXV 6HUYLFHV
%XLOGLQJ 7KH 'UXJ)UHH :RUNSODFH FRRUGLQDD
WRU LV WKH $VVLVWDQW 9LFH 3UHVLGHQW RI +XPDQ
5HVRXUFHV (PSOR\HH $VVLVWDQFH 3URJUDPV
($3 UHODWLQJ WR GUXJ DQG DOFRKRO DEXVH DUH
DYDLODEOH IRU .68 HPSOR\HHV VWDII DQG IDF
XOW\ .68·V ($3 LV SURYLGHG E\ &RPSV\FK
,QF DQG PD\ EH DFFHVVHG E\ SKRQH WROO IUHH DW
RU YLD WKHLU ZHEVLWH $GGLWLRQDO
LQIRUPDWLRQ FDQ EH IRXQG DW KWWS ZZZ NHQ
QHVDZ HGX KU EHQBHDS VKWPO

7KH 'HSDUWPHQW RI 3XEOLF 6DIHW\
QRQ HPHUJHQF\ QXPEHU LV ORFDWHG LQ
WKH 3XEOLF 6DIHW\ %XLOGLQJ QHDU WKH :HVW
3DUNLQJ 'HFN 7KH .68 SROLFH DUH D FR VSRQ
VRU RI DQQXDO 1DWLRQDO &ROOHJLDWH $OFRKRO
$ZDUHQHVV ZHHN LQ 2FWREHU DQG ZLOO VSHDN WR
JURXSV RU FODVVHV XSRQ UHTXHVW DERXW VDIHW\
DQG DOFRKRO DQG GUXJ DZDUHQHVV LVVXHV

7KH :HOOQHVV &HQWHU LV ORFDWHG
LQ WKH 6WXGHQW 5HFUHDWLRQ DQG :HOOQHVV
&HQWHU %OGJ 50 7KH PLVVLRQ RI WKH
&HQWHU IRU +HDOWK 3URPRWLRQ DQG :HOOQHVV
LV WR LPSURYH WKH KHDOWK DQG ZHOO EHLQJ RI
VWXGHQWV DQG HPSOR\HHV WKURXJK DZDUHQHVV
DQG HGXFDWLRQ DQG WKH &HQWHU PDNHV DYDLO
DEOH FRPSXWHU SURJUDPV $OFRKRO DQG
SUHVFULSWLRQ GUXJ LQIRUPDWLRQ WR IXUWKHU WKLV
PLVVLRQ 7KH :HOOQHVV &HQWHU DOVR SDUWLFLSDWHV
HDFK \HDU LQ 1DWLRQDO &ROOHJLDWH $OFRKRO
$ZDUHQHVV ZHHN LQ 2FWREHU VSRQVRULQJ PDQ\
LQWHUDFWLYH SURJUDPV GHVLJQHG WR HGXFDWH
VWXGHQWV IDFXOW\ DQG VWDII WR LVVXHV DVVRFLDWHG
ZLWK DOFRKRO XVH DQG DEXVH

7KH .68 +HDOWK &OLQLF LV
ORFDWHG RQ &DPSXV /RRS 5RDG +RXVH
DFURVV IURP 8QLYHUVLW\ 3ODFH +RXVLQJ 7KH

([FHSW LQ HPHUJHQF\ VLWXDWLRQV D VWXGHQW LV DUH DW
VKDOO XSRQ UHTXHVW EH DFFRUGHGQDRI GSSRSRLQDWLRQ DQ
DWH KHDULQJ SULRU WR D ÀQDQ GHFLVLRQ HRQHQHLQ
LQJ KLV KHU FRQWLQXHG HQUROOPHQW EXW GHÀQLWHO\ ZLWKL
WKH XQLYHUVLW\ UHFHLYLQJ WKH FRPSOLDQW LQ ZU
VWXGHQW 7KH SHUVRQ·V LPPHGLD
VKRXOG EH QRWLÀHG DW WKH VDPH

*ULHYDQFH 3URFHGXUHV
IRU 6WXGHQWV

% 'XULQJ WKH LQYHVWLJDWLRQ E

*ULHYDQFH 3URFHGXUHV IRU $GPLVVLRQV
3ULYDF\ 5LJKWV DQG 2WKHU 1RQ$FDGHP
LF 0DWWHUV
:LWKLQ WKH IUDPHZRUN RI VWXGHQWV· UHODWLRQ
VKLSV WR .HQQHVDZ 6WDWH 8QLYHUVLW\ VHYHUDO
DYHQXHV H[LVW IRU WKH H[SUHVVLRQ RI JULHYDQFH
3URYLVLRQ IRU KHDULQJ DSSHDOV E\ DSSOLFDQWV
GHQLHG DGPLVVLRQ WR WKH XQLYHUVLW\ LV RXWOLQHG
LQ $UWLFOH 9, 6HFWLRQ & 9DULRXV JUDGXDWH
WKH %\ODZV RI WKH %RDUG RI 5HJHQWV $SSHDO
SURFHGXUHV IRU JULHYDQFH% UHODWHG WR VWXGHQWV·
SULYDF\ ULJKWV DUH FRQWDLQHG LQ WKH XQLYHU
VLW\ FDWDORJ VHH VHFWLRQ -RQ0RQÀQDQFLDOHQWLDOLW\ RI
VWXGHQW UHFRUGV &KDUJHV DJDLQVW VWXGHQWV
DQG VWXGHQW RUJDQL]DWLRQV IRU YLRODWLRQV RI
WKH .68 6WXGHQW &RGH RI &RQGXFW ZLOO EH
KDQGOHG WKURXJK WKH 8QLYHUVLW\ -XGLFLDU\
3URJUDP *ULHYDQFHV UHODWHG WR ORVV RI
DWKOHWLF VFKRODUVKLS DQG RWKHU IRUPV RI
ÀQDQFLDO DLG DUH KHDUG E\ WKH)LQDQFLDO $LG
$SSHDOV &RPPLWWHH

*ULHYDQFH 3URFHGXUHV IRU 'LVFULPLQD
WLRQ DQG 5HWDOLDWLRQ
$OO VWXGHQW JULHYDQFHV RU FRPSODLQWV DJDLQVW
IDFXOW\ VWDII RU DGPLQLVWUDWRUV DOOHJLQJ
GLVFULPLQDWRU\ SUDFWLFH V EDVHG RQ UDFH UHOL
JLRQ FRORU VH[VH[XDO RULHQWDWLRQ KDQGLFDS
RU QDWLRQDO RULJLQ RU UHWDOLDWLRQ DJDLQVW
WKH VWXGHQW EHFDXVH RI KLV KHU SULRU UHSRUW
RI GLVFULPLQDWLRQ RU KDUDVVPHQW RU EHFDXVH
RI WKH VWXGHQW·V FRRSHUDWLRQ LQ DQ\ LQYHVWLJD
WLRQ VKDOO EH DGGUHVVHG VLQ ZULWLQJ WR WKH .68
((2 RIÀFH LQ WKH 'LYLVLRQ RI /HJDO $IIDLUV
ZLWK WKH IROORZLQJ FDYHDW ,I WKH VWXGHQW
EHOLHYHV WKDW KLV KHU ÀQDO JUDGH LQ D FRXUVH LV
XQIDLU EHFDXVH RI GLVFULPLQDWLRQ RU UHWDOLD
WLRQ E\ D IDFXOW\ PHPEHU WKH FRPSODLQW VKDOO
EH DGGUHVVHG DV VSHFLÀHG XQGHU $FDGHPLF
3ROLFLHV *UDGH $SSHDO 3URFHGXUHV VHFWLRQ ,,
*UDGH $SSHDO 3URFHGXUH :KHQ 7KH 0 pV 0DÀ jºULPWH VXSHUYL
$OOHJDWLRQ RI 'LVFULPLQDWLRQ RU 5HWDOLDWLRQ
2WKHUZLVH RQFH WKH ((2 RIÀFH KDV UHFHLYHG D
ZULWWHQ FRPSODLQW FRQWDLQLQJ VPHFLÀF DOOHJD
WLRQV RI GLVFULPLQDWRU\ SUDFWLFHV RU UHWDOLDWRU\
DFWLRQV WKH IROORZLQJ SURFHVV VKDOO WDNH SODFH

$ 7KH ((2 RIÀFHU RU KLV KHU GHVLJQHH
PXVW QRWLI\ LQ ZULWLQJ WKH SHUVRQ V ZKRVH

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)

&RXU\

7KLV VHFWLRQ OLVWV XQGHUJUDGXDWH FRXUVHV RIIHUHG E\ WKH XQLYHUVLW\ DQG DYDLODEOH IRU FUHGLW &RXUVHV DUH OLVWHG LQ DOSKDEHWLFDO RUGHU 7KH VXEMHFW FRGH IRU FRXUVHV DQG WKH SURJUDP RIIHULQJ WKH FRXUVHV DUH OLVWHG EHORZ

$FFRXQWLQJ $&&7
$GROHVFHQW (GXFDWLRQ (' $'2
$PHULFDQ 6WXGLHV $06 7
$QWKURSRORJ\ $17+
$SSOLHG ([HUFLVH DQG 6SRUW 6FLHQFH (+6 $HDOWK 6FLHQFH
$SSOLHG 0XVLF 3HUIRUPDQFH 0$ 30 $SSOLHG 0XVLF 3HUIRUPDQFH
$UW (GXFDWLRQ $5(' $UW (GXFDWLRQ
%LRORJ\ %,2/ %LRORJ\
%XVLQHVV ,QIRUPDWLRQ 6\VWHPV %,6 0JW %XVLQHVV ,QIRUPDWLRQ 6\VWHPV 0JW
%XVLQHVV /DZ %/$: %XVLQHVV /DZ
&KHPLVWU\ &+(0 &KHPLVWU\
&KHPLVWU\ (GXFDWLRQ &+(' &KHPLVWU\ (GXFDWLRQ
&RDFK (GXFDWLRQ ('&2 &RDFK (GXFDWLRQ
&RQÁLFW 0DQDJHPHQW &0 &RQÁLFW 0DQDJHPHQW
&RPPXQLFDWLRQ &RPPXQLFDWLRQ

$&&7 $FFRXQWLQJ DQG /HJDO
VXSS LQ ,QWHUQDWLRQDO %XVLQHVV
3UHUHTXLVLWH $GPLVVLRQ WR WKH 0$FF
DQG $&&7 RU $&&7 DQG $&&7 RU
WKHLU HTXLYDOHQWV
$Q LQWURGXFWLRQ WR DFFRXQWLQJ
OHJDO LVVXHV XQLTXH WR WKH [illegible]
FRQWURO DQG HYDOXDWLRQ RI
QHVV DFWLYLWLHV

$&&7 6HPLQDU LQ 9DOXDWLRQ
&ORVHO\ +HOG %XVLQHVVHV
3UHUHTXLVLWH $GPLVVLRQ WR WKH 0$FF
DQG $&&7 RU $&&7 DQG $&&7 RU
WKHLU HTXLYDOHQWV
$Q H[DPLQDWLRQ RI WKH SULQFLSOHV RI EXVLQHVV
YDOXDWLRQ ZLWK DQ HPSKDVLV RQ WKH YDOXDWLRQ
RI QRQ SXEOLFO\ WUDGHG FORVHO\ KHOG HQWLWLHV
LQFOXGLQJ ERWK FRUSRUDWH DQG QRQ FRUSRUDWH
EXVLQHVVHV

$&&7 6HPLQDU LQ $XGLWLQJ
3UHUHTXLVLWH $GPLVVLRQ WR WKH 0$FF SURJUDP
DQG $&&7 RU $&&7 DQG $&&7 RU
WKHLU HTXLYDOHQWV
$ VWXG\ RI ÀQDQFLDO DXGLWV DVVXUDQFH VHUYLF
HV DQG LQWHUQDO DXGLWV (PSKDVLV LV RQ FXUUHQW
GHYHORSPHQWV

$&&7 7D[5HVHDUFK DQG 3URFH
GXUH
3UHUHTXLVLWH $GPLVVLRQ WR 0$FF SURJUDP DQG
$&&7 RU $&&7 DQG $&&7 RU
WKHLU HTXLYDOHQWV
$Q LQWURGXFWLRQ WR WKH 8 6 IHGHUDO WD[V\VWHP
LQFOXGLQJ UHVHDUFK SURFHVVHV WD[SUDFWLFH DQG
SURFHGXUDO LVVXHV 7KLV FRXUVH LV LQWHQGHG
WR VWUHQJWKHQ VWXGHQWV· SUREOHP VROYLQJ DQG
FRPPXQLFDWLRQ VNLOOV LQ D WD[UHVHDUFK VHWWLQJ
(OHFWURQLF WD[UHVHDUFK VHUYLFHV DUH XVHG LQ WKH
VHDUFK IRU DSSOLFDEOH WD[DXWKRULW\

$&&7 &RUSRUDWH 7D[DQG 6KDUH
KROGHUV
3UHUHTXLVLWH $GPLVVLRQ WR WKH 0$FF SURJUDP
DQG $&&7 RU $&&7 DQG $&&7 RU
WKHLU HTXLYDOHQWV
$ VWXG\ RI WKH IHGHUDO LQFRPH WD[DWLRQ RI FRU
SRUDWLRQV DQG VKDUHKROGHUV 7RSLFV FRYHUHG
LQFOXGH FRUSRUDWH FRQWULEXWLRQV GLVWULEXWLRQV
RI VKDUHKROGHUV VWRFN UHGHPSWLRQV DQG FRU
SRUDWH OLTXLGDWLRQV

&RXUVHV

$&&7 6SHFLDO 3URMHFWV LQ $F
FRXQWLQJ
3UHUHTXLVLWH $GPLVVLRQ WR 0$FF SURJUDP DQG
$&&7 RU $&&7 DQG $&&7 RU
WKHLU HTXLYDOHQWV DQG DSSURYDO RI LQVWUXFWRU DQG
0$FF &RRUGLQDWRU SULRU WR UHJLVWUDWLRQ
6SHFLDO SURMHFWV IRU VWXGHQWV ZKR ZLVK WR
SXUVXH DGYDQFHG ZRUN RQ D SDUWLFXODU VXEMHFW
LQ D VSHFLDOL]HG DUHD RI DFFRXQWLQJ

$&&7)RUHQVLF $FFRXQWLQJ

3UHUHTXLVLWH $GPLVVLRQ WR WKH 0$FF SURJUDP
DQG FRPSOHWLRQ RI KRXUV RI OHYHO JUDGX
DWH FRXUVHV LQFOXGLQJ $&&7 DQG $&&7
RU $&&7 DQG FRPSOHWLRQ RI KRXUV
RI OHYHO JUDGXDWH FRXUVHV LQFOXGLQJ $&&7
DQG $&&7
‡ %HIRUH UHJLVWUDWLRQ VWXGHQWV PXVW
VXEPLW WKLV RQOLQH IRUP KWWSV FROHV
NHQQHVDZ HGX PED RSWLRQV 0$&&
DGYLVLQJ JUDGSHWLWLRQ SO
7KLV FRXUVH H[DPLQHV FXUUHQW LVVXHV LQ
IRUHQVLF DFFRXQWLQJ DQG IUDXG LQYHVWLJDWLRQ
LQFOXGLQJ WKH QDWXUH RI IUDXG ZKR FRPPLWV
IUDXG W\SHV RI IUDXG IUDXGXOHQW ÀQDQFLDO
UHSRUWLQJ DVVHW PLVDSSURSULDWLRQ HWF IUDXG
SUHYHQWLRQ IUDXG GHWHFWLRQ IUDXG LQYHVWLJD
WLRQ SURVHFXWLRQ DQG QRQ IUDXG IRUHQVLF
DFFRXQWLQJ VHUYLFHV 7KH FRXUVH LV GHVLJQHG
IRU JUDGXDWH DFFRXQWLQJ VWXGHQWV ZLWK
VWURQJ EDFNJURXQGV LQ ÀQDQFLDO DFFRXQWLQJ
DQG DXGLWLQJ

1RWH 7KH FRXUVH ZLOO EH WDXJKW LQ D VHPLQDU
IRUPDW ZLWK D JUHDW GHDO RI LQWHUDFWLRQ
LQ FODVV

$&&7 6HPLQDU LQ %HKDYLRUDO
5HVHDUFK
3UHUHTXLVLWH $GPLVVLRQ LQWR &ROHV '%$
3URJUDP DQG FRPSOHWLRQ RI '%$ DQG
'%$
7KLV FRXUVH UHYLHZV DSSOLHG EHKDYLRUDO
UHVHDUFK IURP WKH ÀHOGV RI DFFRXQWLQJ PDU
NHWLQJ DQG PDQDJHPHQW 5HVHDUFK ZLOO EH
LQWURGXFHG WKDW FRQVLGHUV KRZ VFKRODUV IURP
GLIIHUHQW ÀHOGV XVH WRSLFV VXFK DV LQGLYLGXDO
GLIIHUHQFHV MXGJPHQW GHFLVLRQ PDNLQJ PR
WLYDWLRQ DQG LQFHQWLYHV LQ WKHLU UHVHDUFK RQ
LQGLYLGXDO DQG JURXS RU FRPPLWWHH EHKDYLRU WLY@0À00`
WLY0€`€XVH%$ 0
WLYQWUDUÀ p0IU°p0@0 P ÀHOGV @PFK RQ
WLY``€@ À€°0

WLIIRG 0p • p •0pP@ @ DUFK RQ
W€`€@€°0 @ •0pp°• À€PW•`€@€ @P0@`ðp€ PÊ HOGVF C
WÀ€`€H •0 pÀ0P0FHG WVPPLXB%# `„€pð0@À``ðp @QW V OÍG WLP IIRG

$067 $PHULFDQ 6WX

RWKHUV &RXUVH PD\ EH UHSHDWHG IRU FUHGLW RQ D UDWLRQD
SURYLGHG WKH FRQWHQW GLIIHUV VLJQLÀFDQWO\ IURP SUHYLRXV
SUHYLRXV RIIHULQJ FDO GLYLVLRQ DV ZHOO DV DQ HPS
VLJQLÀFDQFH RI DUWLIDFWV ORUH

$067 +LVWRULFDO 3HULRG FRPPHQWDU\ RI WKH SHULRG DQG
3UHUHTXLVLWH $GMLVVLRQ WR WKH JUDGXDWH SURJUDPV DQG YLY
LQ $PHULFDQ 6WXGLHV RU SHUPLVVLRQ RI WKH VHQLRU &RXUVH
JUDP FRRUGLQDWRU SURYLGHG WKH FRQWHQW GLIIHUV
6WXGLHV LQ D SDUWLFXODU HUDYLHZV DQG SUDFWLFHV
E\ LQWHUSUHWLQJ VRFLDO HYHQWV DQG SUDFWLFHV
PDWHULDO FXOWXUH YLVXDO $6 ZRUN $SSOLFDWLRQV 6XEXE
SXEOLFDWLRQV LQ D YDULHW\ RI &RXUVH
ZLOO LQYLWH VWXGHQWV WR 3HUHTXLVLWH VWXG\ RI FXOW
LPSDFW RQ WKHLU KLVWRULFDO $SSURDFKHV V
DV WKH LQÁXHQFH LPSRUWDQW &RXUVH VWXG\ RI FXOW
VRFLDO JURXSV KDYH H[HUWHG VHPHVWHU VWXG\ RI FXOW
SHULRGV VXFK DV WKH 3URJUHVVLYH (UD WKHUQV RI WKH $PHU
V RU WKH HUD RI ´GLVFRYHULQJ WKH 1HZ PHWKRGV IURP D
:RUOG &RXUVH PD\ EH UHSHDWHG IRU FUHGLW RQ D UDWLRQD
SURYLGHG WKH FRQWHQW GLIIHUV VLJQLÀFDQWO\ IURP SUHYLRXV
SUHYLRXV RIIHULQJ WH[WV UDQJLQJ IURP ODQGPDUNV
SHUVRQDO KLVWRULHV WR JRYHUQ

$067 3DVVDJHV WR $PHULFD DQG YHUWLVLQJ WR DFKLWHFWXUH
VKLIWLQJ UHODWLRQVKLSV EHWZHH
3UHUHTXLVLWH $GMLVVLRQ WR WKH $PHULFDQ 6WXGLHV VXEXEV
LQ $PHULFDQ 6WXGLHV RU SHUPLVVLRQ RI WKH &RXUVH
JUDP FRRUGLQDWRU SURYLGHG WKH FRQWHQW GLIIHUV
6WXGHQWV HQUROOHG LQ 3DVVDJHV $PHULFD
H[DPLQH IRUFHG DQG YROXQWDU\ PLJUDWLRQ DQG
LPPLJUDWLRQ LQ WKH KLVWRU\ 5HJLRQDO GHYHORSPHQW
RI $PHULFDQ FXOWXUH 7KH YDULHWLHV RI &RXUVH
RI WKHVH LQGLYLGXDO DQG VRFLHWDO &RXUVH RU SHUPLVVLR
GLVFXVVHG LQ WKH FRQWH[W RI $PHULFDQ VRFLHWLHV D
UDFLDO DQG HWKQLF JURXS 5HODWLRQVKLSV EHWZHHQ
DQG VRFLDO FODVV IRUPDWLRQV D WKHP
UHODWLRQV EHWZHHQ GRPLQDQW &XOWXUHV DQG VXEFXOWXUHV
JURXSV DORQJ ZLWK GHEDWHV RYHU FLWL]HQVKLS VLQJ WH
$PHULFDQL]DWLRQ SROLFLHV OLWHUDWXUH LQFOXGLQJ 6WX
LPPLJUDWLRQ)LQDOO\ VWXGHQWV UDQDO\]H WKHP OLWHUDU\ SU
FXOWXUDO FRQFHSWV RI DVVLPLODWLRQ PXOWLFXOWXUDOLVP WKHRU
LVP DQG PXOWLFXOWXUDOLVP WKDW IUDPH WKHVH p€ p DG
GHEDWHV &RXUVH PD\ EH UHSHDWHG IRU FUHGLW SURPRQV
SURYLGHG WKH FRQWHQW GLIIHUV HQWLUHO\ IURP WKHSUHP€PÀ
SUHYLRXV RIIHULQJ

$067 3XEOLF +LVWRU\ DQG &XO
WXUH
3UHUHTXLVLWH $GMLVVLRQ WR WKH JUDGXDWH SURJUDP
LQ $PHULFDQ 6WXGLHV RU SHUPLVVLRQ RI WKH SUR
JUDP FRRUGLQDWRU
3XEOLF +LVWRU\ DQG &XOWXUH H[DPLQHV WKH
SRSXODU XVHV DQG SUHVHQWDWLRQV RI WKH $PHUL
FDQ SDVW ([SORULQJ KLVWRULFDO PHPRU\·V UROH
LQ $PHULFDQ FXOWXUH WKH FRXUVH GUDZV RQ D
UDQJH RI PHWKRGV H J VLWH YLVLWV UHVHDUFK
LQ SRSXODU SXEOLFDWLRQV VWXG\ RI KLVWRUL
FDO GRFXPHQWDULHV WR FULWLTXH ZD\V WKDW WKH
SDVW LV UHFRUGHG DQG WUDQVPLWWHG &RXUVH

LQÁXHQFH RI $PHULFDQ FXOWXUH LQ RWKHU SDUWV RI WKH ZRUOG H J $PHULFDQ WHOHYLVLRQ DV YLHZHG LQ RWKHU ODQGV DQG WKH ZD\V WKDW LPPLJUDWLRQ RI QHZ JURXSV KDV VKDSHG WKH VRFLDO ODQG

PD\ LQFOXGH WKH HPHUJHQFH RI WKH FRUSRUD

&RXUVHV

&RXUVHV

$5(' &RQWHPSRUDU\ ,VVXHV LQ 9LVXDO $UWV

3UHUHTXLVLWH $GPLVVLRQ WR +LVWRULFDO DQG FRQWHPSRUDU\ WKH ÀHOG RI DUW HGXFDWLRQ D PHDQV WR FRPSRVH D UHOHYDQW WR WRGD\·V DUW G H[SORUDWLRQ UHVXOWV LQ WKH FRQFHSWV DQG LVVXHV WR FXOWXUDO YLHZ RI WKH ÀHOG 6RFLDO WLYH DQG SV\FKRPRWRU FRPSRVLWLRQ UHOHYDQW WR DUW HGXFDWLRQ 0XOWLFXOWXUDO DQG LQFOXVLYH FXOGHG 7HFKQRORJLFDO DSSOLFDWLRQV LQFOXGH WKH XVH RI ZRUG SURFHVVLQJ HOHFWURQLF SRUWIROLR GHYHORSPHQW SUHVHQWDWLRQ DSSOLFDWLRQV DQG ,QWHUQHW UHVHDUFK

$5(' 7KHRU\ DQG &ULWLFLVP, LQ $UW (GXFDWLRQ

3UHUHTXLVLWH $5(' / DQG $5(&DQGLGDWHV XQGHUVWDQG WKH UROH RI DUW HGXFDWLRQ E\ UHVHDUFKLQJ DQG LQWHUSUHWLQJ DQG LQWHUQDWLRQDO FXOWXUDO FRQWH[WV DQG LVVXHV WKDW VKDSH WKH ÀHOG RI DUW HGXFDWLRQ DQG FRQWHPSRUDU\ DUW 7KH\ DOVR H[SORUH ZKHQ VWUDWHJLHV DQG WHFKQLTXHV WR DOO FODVVURRP GLYHUVLWLHV DQG OLPLWDWLRQV RI ZRUN LQ FODVVURRP VHWWLQJV WR FDUU\ RXW GLUHFWHG DFWLYLWLHV

$5(' 5HVHDUFK LQ $UW (GXFDWLRQ

3UHUHTXLVLWH $5(' / DQG $5(&DQGLGDWHV H[DPLQH UHVHDUFK PHWKRGRORJLHV LQ DUW HGXFDWLRQ IRFXVLQJ RQ TXDOLWDWLYH DQG TXDQWLWDWLYH UHVHDUFK PHWKRGV DQG GHVLJQV DQG LQWHUSUHWDWLRQV DQG DSSOLFDWLRQV WR FODVVURRP SUDFWLFHV 7KLV FRXUVH DOVR H[SORUHV WKH UROH RI WHDFKHUV DV UHVHDUFKHUV DQG WKH LPSRUWDQFH RI GHYHORSLQJ D UHODWLRQDOH DQG &DQGLGDWHV ZLOO XQGHUVWDQG KRZ HIIHFWLYH XVH RI D YDULHW\ RI DVVHVVPHQW WHFKQLTXHV WR DVVHVV YLVXDO DWH WHDFKLQJ DQG OHDUQLQJ DQG OLWHUDF\ 7RSLFV LQFOXGH WHFKQLTXHV DERXW OLWHUDWXUH FULWLTXH]DWLRQV DQG OHJDO LVVXHV

$5(' $UW (GXFDWLRQ 3RUWIROLR

3UHUHTXLVLWH $5(' / DQG $5(. 7KLV FRXUVH LV WKH FDSVWRQH H[SHULHQFH IRU WKH 0$7 LQ $UW &DQGLGDWHV, DQG GHYHORSV WKH VXSHUYLVLRQ RI WKH FRXUVH

LQVWUXFWRU DQG WKH SRUWIROLR SXUSRVH RI FRQVWUXFWLQJ WKH S HLPSRUWDQFH RI DVVHVVPHQW DQG UHÁHF DSSURDFKHV WR WHDFKLQJ DQG LQGLYLGXDO GLIIHUHQFHV DQG DSSURDFKHV WR WHDFKLQJ DUW HGXFDWLRQ DQG SURIHVVLRQDO GHYHORSPHQW DV ZHO GHYHORSPHQW RI D WHDFK SHUVRQDO SKLORVRSKLHV DV ZHO DQG SUDFWLFHV LQ WKH ÀHOG RI DUW HGXFDWLRQ

%(' %LRORJ\ (GXFDWLRQ

7HDFKLQJ RI %LRORJ\

3UHUHTXLVLWH ('8& / DGPLVV 0$7 %LRORJ\ SURJUDP DSSURYDO IUR SXUSRVH RI DGPLVVLRQ DQG DSSOLFDWLRQ SURFHVVHV DQG VWUDWH DQG SURIHVVLRQDO GHYHORSPHQW DQG SUDFWLFHV LQ WKH ÀHOG RI %LRORJ\ (GXFDWLRQ &RXUVHV DQG DFWLYLWLHV DUH GHVLJQHG WR DOORZ VWXGHQWV WR GHYHORS DQG UHÀHFW RQ WKHLU SHUVRQDO SKLORVRSKLHV DQG SUDFWLFHV LQ WKH ÀHOG RI %LRORJ\ (GXFDWLRQ 7KLV GYDQFHG FRXUVH 7HDFKLQJ RI %LRORJ\ 3UDFWLFXP 3UHUHTXLVLWH $GPLVVLRQ WR %(' 0LGGOH DQG 6HFRQGDU\ VFKRRO ÀHOG RI %LRORJ\ (GXFDWLRQ &RXUVHV DQG DFWLYLWLHV DUH GHVLJQHG WR DOORZ VWXGHQWV WR GHYHORS DQG UHÀHFW RQ WKHLU SHUVRQDO SKLORVRSKLHV DQG SUDFWLFHV LQ WKH ÀHOG RI %LRORJ\ (GXFDWLRQ)XOO WLPH WHDFKLQJ HQYLURQPHQW XQGHU WKH RYHUVLJKW RI D FHUWLÀHG RU KLJK VFKRRO PHQWRU WHDFKHU DQG D FROOHJH VFLHQFH HGXFDWLRQ VXSHUYLVRU DQG %(FRXUVHV LQFOXGH UHJXODU\ VFKHGXOHG VHVVLRQV RI SUDFWLFH WHDFKLQJ LQ D VFKRRO VHWWLQJ DQG UHJXODU VHPLQDUV RI SURIHVVLRQDO GHYHORSPHQW DQG UHÁHFWLRQ

%,2/ %LRORJ\

%,2/ 0HGLFDO *HQHWLFV
3UHUHTXLVLWH %,2/ ZLWK D JUDGH RI & RU EHW
WHU DGPLVVLRQ LQWR 0$7 SURJUDP
7KLV FRXUVH HTXLSV VWXGHQWV ZLWK WKH IXQGD
PHQWDO FRQFHSWV RI KXPDQ JHQHWLFV DV ZHOO DV
NQRZOHGJH RI WKH JHQHWLF GLVHDVHV VWXGLHG LQ
PHGLFLQH %\ WKH HQG RI WKH FRXUVH VWXGHQWV
VKRXOG EH NQRZOHGJHDEOH DERXW WKH GLVHDVHV
VWXGLHG LQFOXGLQJ WKHLU PROHFXODU DQG JHQHWLF
HWLRORJ\ EH DEOH WR LGHQWLI\ JHQHWLF FRQFHSWV
LQ FOLQLFDO FDVHV DQG VROYH RU SUHGLFW JHQHWLF
SUREOHPV EDVHG RQ LQIRUPDWLRQ JLYHQ K\SR
WKHWLFDO RU UHDO OLIH 7KH FRXUVH DOVR JLYHV DQ
RYHUYLHZ RI WKH HWKLFDO DQG VRFLDO LPSOLFDWLRQV
RI JHQHWLFV LQ PHGLFLQH

%,2/ (YROXWLRQDU\ %LRORJ\
3UHUHTXLVLWH %,2/ ZLWK D JUDGH RI & RU EHW
WHU DGPLVVLRQ LQWR 0$7 SURJUDP
3ULQFLSOHV RI HYROXWLRQDU\ ELRORJ\ LQFOXGLQJ
GLVFXVVLRQV RI QDWXUDO VHOHFWLRQ DGDSWDWLRQ
SRSXODWLRQ JHQHWLFV VSHFLDWLRQ DQG SK\ORJ
HQ\ UHFRQVWUXFWLRQ 7KH DSSOLFDWLRQV RI HYROX
WLRQDU\ ELRORJ\ WR DUHDV VXFK DV FRQVHUYDWLRQ
ELRORJ\ PHGLFLQH DQG DJULFXOWXUH
DUH GLVFXVVHG

%,2/ ,PPXQRORJ\
3UHUHTXLVLWH %,2/ ZLWK D JUDGH RI & RU
EHWWHU %,2/ UHFRPPHQGHG DGPLVVLRQV LQWR
0$7 SURJUDP
,PPXQRORJ\ H[SORUHV FXUUHQW FRQFHSWV RI
WKH LPPXQH V\VWHP (PSKDVLV LV SODFHG
RQ WKH LQGXFWLRQ RI WKH LPPXQH UHVSRQVH
RQ WKH PHFKDQLVPV RI WKRVH UHVSRQVHV DQG
RQ WKH PHFKDQLVPV E\ ZKLFK WKH LPPXQH
V\VWHP SURWHFWV DJDLQVW GLVHDVH 7KH GHYHORS
PHQW DQG WKH UROH RI HDFK RI WKH FRPSRQHQWV
LQYROYHG LQ WKH LPPXQH UHVSRQVH DV ZHOO DV
LPPXQRORJLFDO DSSOLFDWLRQV LV GLVFXVVHG

%,2/ %LRHWKLFV
3UHUHTXLVLWH & RU EHWWHU JUDGH LQ %,2/
SOXV D PLQLPXP RI KRXUV RI OHYHO
%LRORJ\ %LRWHFKQRORJ\ %LRFKHPLVWU\ FRXUVHV
RU FRQVHQW RI LQVWUXFWRU DGPLVVLRQ LQWR *UDGX
DWH SURJUDP
([SORUDWLRQ RI D VSHFLÀFDOO\ GHVLJQHG WRSLF

%,2/ $GYDQFHG &WXGLHV LQ
$QDWRP\ DQG 3K\VLRORJ\
3UHUHTXLVLWH $GPLVVLRQ WR JUDGXDWH VWXG\ LQ
HGXFDWLRQ DQG SHUPLVVLRQ RI GC YLVRU •€ð00``00ðÍ PH PHS 0@
FDO P 0ðÍ 0@À„•€ 0``00ðÍ %,2/
HrepP 0 SHUPLVVLRQ RL VR
L FDO00P 0W@D Pp€ À0 P0ÀDål FDO RX

%,60 %XVLQHVV ,QIRUPDWLRQ 6\VWHPV 0DQDJHPHQW

%,60 ,QIRUPDWLRQ DQG 2SHUDWLRQV $ 0DQDJHULDO $SSURDFK
3UHUHTXLVLWH $GPLVVLRQ WR WKH &ROOHJH 0%$ RU
0$FF SURJUDP DQG %,60 RU HTXLYDOHQW SURIHVVLRQDO ,VVXHV LQ
PLFURFRPSXWHU SURÀFLHQF\ ,QIRUPDWLRQ 5HVRXUFH 0DQDJHPHQW
7KH FRXUVH LV GHVLJQHG IRU PDQDJHUV IURP DOO
IXQFWLRQDO DUHDV ZKR QHHG D JUHDWHU XQGHUVWDQGLQJ WR WKH
WKH UROH DQG SRWHQWLDO RI LQIRUPDWLRQ WHFKQRORJ\ IRU WKHLU
WLRQ WHFKQRORJ\ IRU WKHLU RUJDQL]DWLRQV
XQGHUVWDQG WKH RSSRUWXQLWLHV DQG FRQVW
SRVHG E\ ,7 LQ FRQWHPSRUDU\ RUJDQL]DWLRQV DQG WKH
HQYLURQPHQWV DQG XQGHUVWDQG WKH FKDQJ WHFKQRORJ
RSPHQW LMPLHPHQWDWLRQ DQG PDQDJHPHQW RI LQIRUPDWXUHV DQ
LQIRUPDWLRQ WHFKQRORJ\ LQIRUPDWLRQ EDVHG
WKH UHVXOWLQJ LVVXHV WKDW DULVH ZKHQ 7KH
HPSKDVL]H WKH VWUDWHJLF UROH WKDW LQIRUPDWLRQ PD\ EH IRU
EDVHG LQIRUPDWLRQ V\VWHPV DQG WKH V
HUQ RUGQL]DWLRQV DQG ZLOO H[SORUH LQIRUPDW
DGYDQFHV LQ KDUGZDUH DQG VRIWZDUH RU RXWVRXUFL
RJ\ DUH LMPDFWLQJ EXVLQHVV \PRGHO XUHV
DQG SURFHVVHV ZLWKLQ RUJDQL]DWLRQ 7KH IRFXV
LV RQ HGXFDWLQJ WKH PDQDJHU 2 7RSLFV LQ %XVLQ
LQIRUPDWLRQ V\VWHPV LMPDFWLQJ 5HSHDWDEO
DQG KRZ RUJDQL]DWLRQV LMPOHPHQW
V\VWHPV 6WXGHQWV DUH HTXLSSHG WR DQDO
WKH LQWHUSOD\ EHWZHHQ LQIRUPDWLRQ WHFKQRORJ\
VWUDWHJ\ DQG RUJDQL]DWLRQDO VWUXFWXUH

%,60 0DQDJHPHQW 6XSSRUW 6\V
WHPV
3UHUHTXLVLWH $GPLVVLRQ WR WKH &ROOHJH 0%$ RU
0$FF SURJUDP DQG %,60 RU HTXLYDOHQW SURIHVVLRQDO
7KLV FRXUVH LV GHVLJQHG WR H[SORUH WKH EXVL
QHVV XVH RI GHFLVLRQ VXSSRUW V\VWHPV '66
E\ PDQDJHUV DQG RWKHU NQRZOHGJHZRUNHUV
DQG WKH LQWHUVHFWLRQ RI WKHVH WRSLFV LQWURGXFH WK
SRSXODU V\VWHPV ZLWK WKH HPHUJLQJ ÀHOG R
NQRZOHGJH UHVRXUFHV 7RSLFV LQFOXGH GDWD
ULDO VXSSRUW DQG GHFLVLRQ PDQDJHPHQW H[HFXWLYH DV MXULVGLF
PDQDJHPHQW H[HFXWLYH GDVKERDUGV DQG F\EH
DUWLÀFLDO LQWHOOLJHQFH DQG JURXS GHFLVLRQ PDN
LQJ 7KH FRXUVH ZLOO FRPSDUH DQG FRQWUDVW WKH
UROH RI WHFKQRORJLFDO DQG KXPDQ PDQDJHPHQW
VXSSRUW V\VWHPV DQG WKH SRWHQWLDO V\QHUJ\
EHWZHHQ WKH WZR $PRQJ WKH SUDFWLFDO TXHV
WLRQV WDNHQ XS LQ WKH FRXUVH DUH +RZ FDQ
PDQDJHUV EHFRPH PRUH GHFLVLRQ PDNHUV
RZQ GHFLVLRQ PDNLQJ DQG SURÀWDELOLW\
FDSDFLW\" +RZ GR HIIHFWLYH PDQDJHUV

%/$ %XVLQHVV /D

%/$ &ROOHJH RI %XVLQHVV $GPLVVLRQ WR WKH &ROOHJH RU
HTXLYDOHQW RU 3URIHVVLRQDO ,VVXHV LQ ,QIRUPDWLRQ 7HFKQRORJ\
7KLV FRXUVH ZLOO LQWURGXFH WKH EXVL
QHVV XVH RI GHFLVLRQ VXSSRUW V\VWHPV '66
E\ PDQDJHUV DQG RWKHU NQRZOHGJHZRUNHUV
DQG WKH LQWHUVHFWLRQ RI WKHVH WRSLFV LQWURGXFH WK
SRSXODU V\VWHPV ZLWK WKH HPHUJLQJ ÀHOG R
NQRZOHGJH UHVRXUFHV 7RSLFV LQFOXGH GDWD
ULDO VXSSRUW DQG GHFLVLRQ PDQDJHPHQW H[HFXWLYH DV MXULVGLF
PDQDJHPHQW H[HFXWLYH GDVKERDUGV DQG F\EH
DUWLÀFLDO LQWHOOLJHQFH DQG JURXS GHFLVLRQ PDN
LQJ 7KH FRXUVH ZLOO FRPSDUH DQG FRQWUDVW WKH
UROH RI WHFKQRORJLFDO DQG KXPDQ PDQDJHPHQW
VXSSRUW V\VWHPV DQG WKH SRWHQWLDO V\QHUJ\
EHWZHHQ WKH WZR $PRQJ WKH SUDFWLFDO TXHV
WLRQV WDNHQ XS LQ WKH FRXUVH DUH +RZ FDQ
PDQDJHUV EHFRPH PRUH GHFLVLRQ PDNHUV
RZQ GHFLVLRQ PDNLQJ DQG SURÀWDELOLW\
FDSDFLW\" +RZ GR HIIHFWLYH PDQDJHUV

VR WKH\ FDQ FRPSHWHQWO\ EUHDWH VWUDWHJLF SODQV
WR PDLQWDLQ RU LPSURYH WKHLU FRPS\;V FRP
SHWLWLYHQHVV DQG OHDGHUVKLS SRVLWLRQ LQ WKHLU*LQGXVWU\ RU EHW

%/$: %XVLQHVV 1HJRWLDWLRQ WLPH WHDFKLQJ H[SHULHQFH
XQGHU WKH VXSHUYLVLRQ RI D PLG
3UHUHTXLVLWH $GPLVVLRQ WR WKH &RUH &RXUVHV DQG D F
$&&7 RU LWV HTXLYDOHQW HGXFDWLRQ VXSHUYLVRU ,QFOXGH
7KLV FRXUVH LPPHUVHV SDUWLFLSDQWV LQ HLJKW 3URFI SU
WLRQ DQG OHJDO WKHRULHV DEOH WR FRPPH UHTXLUHG
FLDO DQG ÀQDQFLDO WUDQVDFWLRQV HQWHUSULVHV
DQG JOREDO EXVLQHVV UHODWLRQVKLSV 7KH IRFXV LV
RQ QHJRWLDWLQJ EXVLQHVV GHDOV DQG YHQWXUHV

&+(0 &KHPLVWU\

%/$: 6SHFLDO 7RSLFV LQ %XVL
QHVV /DZ 5HSHDWDEOH &+(0 0HGLFLQDO &KHPLVWU\
3UHUHTXLVLWH $GPLVVLRQ WR WKH &ROOV 0%$ RU
0$FF SURJUDP SHUPLVVLRQ RI3UHVHQWDWLRQ *UDGXDWH OHYHO VW
DSSURYDO RI 3URJUDP 'LUHFWRU RU RI WKH LQVWUXFWRU
6HOHFWHG FRQWHPSRUDU\ WRSLFV FRQFHUQLQJ GDPHQWD
RI LQWHUHVW WR IDFXOW\ DQG VWXGHQWV GUXJ GLVFRYHU\ G
DQG SKDUPDFRNLQHWLFV ZLWK HP
WR WKH UROH RI FKHPLVWU\ DQG E
HQ]\PHV UHFHSWRUV DQG 1$

&+(' &KHPLVWU\ (GXFDWLRQ

&+(' 7HDFKLQJ RI &KHPLVWU\

3UHUHTXLVLWH ('8& / &+(0 7KH 7HDFKLQJ DQG /HDUQ
WR 0$7 &KHPLVWU\ SURJUDP DSSURYDO 3URJ LQJ RI &KHPLVWU\
LQVWUXFWRU 3UHUHTXLVLWH *UDGH RI & RU EHWW
$Q H[DPLQDWLRQ DQG DSSOLFDWLRQ RI OHDUQ
LQJ WKHRULHV FXUULFXODU LVVXHV LQVWUXFWLRQDO
GHVLJQ DQG DVVHVVPHQW VWUDWHJLHV ,RU WHDFK
LQJ PLGGOH DQG VHFRQGDU\ 3XOWLFXOWXUD
LQ GLYHUVH FODVVURRPV &DQGLGDWHV GHYHORS
LQLWLDO FRPSHWHQFLHV IRU HVWDEOLVKLQJ D ZHOO
PDQDJHG SURGXFWLYH OHDUQLQJ HQYLURQPHQW
DSSO\LQJ VFLHQFH RQWHQW NQRZOHGJH WR WKH
WDVN RI WHDFKLQJ DGROHVFHQWV DQG SURPRWLQJ
DQ XQGHUVWDQGLQJ RI WKH QDWXUH RI VFLHQFH
WKURXJK LQTXLU\ EDVHG LQVWUXFWLRQ (PSKDVL]
HV SUDFWLFHV VXSSRUWHG E\ VFLHQFH HGXFDWLRQ
UHVHDUFK DQG HQGRUVHG E\ WKH 167$ 3URFI
RI SURIHVVLRQDO OLDELOLW\ LQVXUDQFH LV UHTXLUHG
SULRU WR UHFHLYLQJ VFKRRO SODFHPHQWV LQ WKH
FR UHTXLVLWH SUDFWLFXP

&+(' 7HDFKLQJ RI &KHPLVWU\
3UDFWLFXP
3UHUHTXLVLWH $GPLVVLRQ WR &+('
0LGGOH DQG VHFRQGDU\ VFKRRO ÀHOG H[SHULHQFH
LQ WHDFKLQJ FKHPLVWU\ ZLWK FRQFXUUHQW VHPL
QDUV 3URFI RI SURIHVVLRQDO OLDELOLW\ LQVXUDQFH
LV UHTXLUHG SULRU WR VFKRRO SODFHPHQWV

&+(0)RUHQVLF $QDO\WLFDO &KHP LVWU\
3UHUHTXLVLWH *UDGH RI & RU EHWWHU LQ &+(0 DQG &+(0
7KLV FRXUVH FRYHUV IXQGDPHQWDO WRSLFV RI IR UHQVLF DQDO\WLFDO FKHPLVWU\ LQFOXGLQJ VWDWLVWLFV DQG GDWD TXDOLW\ VDPSOH SUHSDUDWLRQ GUXJV SKDUPDFRORJ\ DQG WR[LFRORJ\ DUVRQ DQG WKH

&0 %DVLF 0HGLDWLRQ 6NLOOV $GYDQFHG &RQÁLFW 0DQDJH
3UHUHTXLVLWH $GPLVVLRQ WR 06&0 6WXGHQWV
SURJUDP RU SHUPLVVLRQ RI SURJUDP GLUHFWRU &0
7KLV FRXUVH LV GHVLJQHG WR SURYLGH VWXGHQWV WR
ZLWK EDVLF PHGLDWLRQ WUDLQLQJ DQG SUDFWLFH
WKH *HRUJLD 2IÀFH RI 'LVSXWH 5HVROXWLRQ
PHGLDWRUV KDQGOLQJ FRXUW UHIHUUHG FLYLO
RUGHUHG FDVHV PXOWL SDUW\ PHGLDWLRQ DQG WU

&0)RXQGDWLRQV DQG 7KHRULHV RI &RQÁLFW
&RQÁLFW 0DQDJHPHQW &RQÁLFW DQG &RQÁLFW 0DQDJHPHQW ,Q
SHUVRQDO ,QWHUJURXS DQG &RPPX
3UHUHTXLVLWH $GPLVVLRQ WR 06&0 &RQÁLFW 0DQDJH 2UJDQL]DW
SURJUDP RU SHUPLVVLRQ RI SURJUDP GLUHFWRU LQ
FRQVXOWDWLRQ ZLWK IDFXOW\ 3UHUHTXLVLWH $GPLVVLRQ WR WKH
7KLV FRXUVH LV GHVLJQHG WR SURYLGH VWXGHQWV WR GLUHFWRU LQ
WR WKH IRXQGDWLRQV DQG WKHRULHV RI &RQÁLFW &0 &0
PDQDJHPHQW 7KH FRXUVH LQFRUSRUDWHV WKH G\QDP
GLVFLSOLQDU\ LQWURGXFWLRQ WR SHGDJRJLFDO PDQDJHPHQW JURX
PHQW 7KH FRXUVH LQFOXGHV VHOHFWLRQ DQG DSSOLFDWLRQ WKH URO
LQWURGXFWLRQ WR FRQÁLFW LQWHUYHQWLRQ WKH H[SHULHQ
ÀHOG VRXUFHV RI FRQÁLFW HPSKDVL]LQJ 6WXGHQW
7KH FRXUVH LQWURGXFHV VWXGHQWV WR FRQÁLFW UHVROXWLRQ
UHVSRQVHV WR FRQÁLFW FRQÁLFW WKURXJK UHDGLQJV

&0)RXQGDWLRQV DQG 7KHRULHV
RI &RQÁLFW 0DQDJHPHQW 1HJRWLDWLRQ &RQÁLFW DQG
7KHRU\ 6NLOOV RI &RQÁLFW 0DQDJHPHQW 3X
3UHUHTXLVLWH $GPLVVLRQ WR 06&0 3URJUDP &URVV &XOWXUDO
SURJUDP RU SHUPLVVLRQ RI SURJUDP GLUHFWRU &RQÁLFW 5HVROXWLR
FRQVXOWDWLRQ ZLWK IDFXOW\ 3UHUHTXLVLWH $GPLVVLRQ WR 06&0
6WXGHQWV ZLOO JDLQ DQ XQGHUVWDQGLQJ RI SURJUDP
IXQGDPHQWDO RI QHJRWLDWLRQ &0
IRUPDW WKDW LQFOXGHV OHFWXUH &RQÁLFW SOD\ IRFXVHG
H[HUFLVHV DQG FDVH VWXG\ &RQÁLFW DQDO\VHV SXEOLF SR
ZLOO LQFOXGH DQ LQWURGXFWLRQ WR JDPH WKHRU\ FRPPXQLFDW
GLVWULEXWLYH DQG LQWHJUDWLYH E\JUDLQLQJ SULQFLSOHV
FLSOHG QHJRWLDWLRQ SV\FKRORJLFDO EDUULHUV WR
VHWWOHPHQW DQG QHJRWLDWLRQ HWKLFV

&0)RXQGDWLRQV DQG 7KHRULHV RI
&RQÁLFW 0DQDJHPHQW $'5 &RQWLQXXP

3UHUHTXLVLWH $GPLVVLRQ WR 06&0 JUDGXDWH
SURJUDP RU SHUPLVVLRQ RI SURJUDP GLUHFWRU LQ
FRQVXOWDWLRQ ZLWK IDFXOW\
7KLV FRXUVH KHOSV VWXGHQWV GHYHORS DQ XQGHU
VWDQGLQJ RI WKH QRPHQFODWXUH RI DOWHUQDWLYH
GLVSXWH UHVROXWLRQ $'5 SURFHVVHV FRPPRQ
O\ XVHG LQ WKH 8QLWHG 6WDWHV 7KH VWXGHQWV ZLOO
H[DPLQH WKH KLVWRU\ DQG HYROXWLRQ RI $'5 DV
ZHOO DV EULHÁ\ H[DPLQLQJ D QXPEHU RI LQGL
YLGXDO SURFHVVHV LQ GHWDLO VXFK DV QHJRWLDWLRQ
PHGLDWLRQ DUELWUDWLRQ HDUO\ QHXWUDO HYDOXD
WLRQ RPEXGV RIÀFHV HWF

&0 &RQÁLFW 0DQDJHPHQW 5H VHDUFK 0HWKRGV
3UHUHTXLVLWH &0 &0
7KLV FRXUVH LV GHVLJQHG WR LQWURGXFH VWXGHQWV WR EDVLF UHVHDUFK PHWKRGV XVHG LQ WKH VWXG\ RI FRQÁLFW 7KHUH LV D SDUWLFXODU HPSKDVLV XSRQ PHWKRGV WR DVVHVV FRQÁLFW DQG HYDOXDWLRQ LQWHUYHQWLRQV GHVLJQHG WR DGGUHVV FRQÁLFW LQ D JLYHQ HQYLURQPHQW

&6 7&3 ,3 DQG WKH ,QWHUQHW

(&(3KLORVRSKLFDO DQG (WKLFDO)RXQGDWLRQV IRU 7HDFKHU /HDGHUV

3UHUHTXLVLWH $GPLVVLRQ WR WKH (G ' 3URJUDP

7KLV FRXUVH LV LQWHQGHG WR QXUWXUH D PRUH SKLORVRSKLFDO SHUVSHFWLYH WRZDUGV SODQ QLQJ LPSOHPHQWLQJ HYDOXDWLQJ FXUULFXOXP

&RXUVHV

(&(0HQWRULQJ)XWXUH 7HDFKHUV GHYHORS PHQW WKHRULHV KLVWRU
/HDGHUV VRSKLFDO SHUVSHFWLYHV ZLOO EH
3UHUHTXLVLWH $GPLVVLRQ WR QWKH (G ' 3URJUDPH PDGH XVLQJ FX
7KLV FRXUVH LV GHVLJQHG IRU WHDFKHUV VWXGHQWLRQ VWDQGDUGV
H[DPLQHV IRUPDO DQG LQIRUPDO WHDFKHUV RQOLQH PDWHULDOV
VKLS UROHV DQG DVVHVVHV WKH HGILHFWRQ RI WKH FRXUVH ZLOO L
UROHV RQ WHDFKHUV DQG RQ WHDFKHUV DQG RWKHU HQWHRHWLF
,W DQDO\]HV WKH EDUULHUV DQG VWHUHRWLSHV HUVXFKS DV HWKL
FUHDWHG E\ WKH VWUXFWXUH RI HDFK RQH GDQG DQG H DPLO\ LQYRO
FXOWXUH RI WHDFKLQJ 7KH UROH WKH WKRL XFDOXW\HFDUH DQG HG
LV WR SURYLGH DQ XQGHUVWDQGLQJ RI WKH
GLÀFXOWLHV DQG WKH RSSRUWXQLWLHV LQKHUHQW LQ
WHDFKHU OHDGHUVKLS DQG WR HOS7HDEKHUV/HDGHUV WKDW
ZLOO EH XVHIXO DV WHDFKHU FKDQJHUV
3UHUHTXLVLWH $GPLVVLRQ WR WKH (

(&(,QWHUQVKLS IRU 'HYHORSLQJ
7HDFKHU /HDGHUV D€pÀ`@ð0p W\ 0R@E8c€O QHEGV DQ
3UHUHTXLVLWH $GPLVVLRQ WR UWKH (G 6HDRpÀpÀ ' @€Q€€p 0 0UP WS
3URJUDP
'XULQJ WKLV LQWHUQVKLS WKH FDQGLGDWH ZLOO
DORQJ ZLWK WKH XQLYHUVLW\ IDFXOW\ DQG VLWH
VXSHUYLVRU FUHDWH D SURJUDP RI REVHUYD
WLRQ UHVHDUFK DQG LQYROYHPHQW GHVLJQHG WR
KHOS SXW UHOHYDQW WKHRULHV LQWR SUDFWLFH JDLQ
XQGHUVWDQGLQJ LQWR WKH UROH RI VFKRRO FXOWXUH
LQ VFKRRO LPSURYHPHQW OHDUQ KRZ WR LGHQWLI\
DQG RYHUFRPH EDUULHUV WR UHIRUP DQG LGHQWLI\
DQG H[SORUH SHUVRQDO DQG SURIHVVLRQDO FKDUDF
WHULVWLFV FRQGXFLYH WR WHDFKHU OHDGHUVKLS

&RXUVHV

(&(&XUULFXOXP 'HFLVLRQ 0DNLQJ
.
3UHUHTXLVLWH $GPLVVLRQ WR WKH (G ' 3URJUDP
7KLV FRXUVH ZLOO H[DPLQH PXOWLSOH ZD\V WR XVH
RUJDQL]DWLRQ DV D WRRO WR HQKDQFH LQVWUXFWLRQ
LQ JUDGHV . WK FODVVURRPV &RPSDULVRQ RI
WKH HIIHFW RI RUJDQL]DWLRQDO VWUDWHJLHV DQG
GHYHORSPHQWDO VWDJHV RQ VWXGHQW OHDUQLQJ DQG
H[DPLQDWLRQ RI URDGEORFNV WR HVWDEOLVKPHQW
RI HIIHFWLYH RUJDQL]DWLRQDO VWUXFWXUHV ZLOO EH
VWXGLHG 7KURXJK WKH XVH RI FROODERUDWLRQ DQG
FRPPXQLFDWLRQV ZD\V WR PLQLPL]H WKH HIIHFWV
RI WKH UHDO OLIH URDGEORFNV ZLOO EH GHYHORSHG
&DQGLGDWHV ZLOO LQFRUSRUDWH ZD\V WR FHOHEUDWH
GLYHUVLW\ LQ D G\QDPLF FODVVURRP $WWHQ
WLRQ LV JLYHQ WR KLVWRULFDO SKLORVRSKLFDO DQG
WKHRUHWLFDO SHUVSHFWLYHV LQFOXGLQJ FXUUHQW
QDWLRQDO VWDQGDUGV SURJUDPPDWLF GHVLJQ DQG
RUJDQL]DWLRQ DQG WKH XVH RI SHUVRQQHO PDWHUL
DOV DQG HTXLSPHQW

(&(&XUULFXOXP 'HFLVLRQ 0DNLQJ
 %LUWK \UV
3UHUHTXLVLWH $GPLVVLRQ WR WKH (G ' 3URJUDP
&DQGLGDWHV ZLOO H[DPLQH PXOWLSOH DSSURDFKHV
WR FDULQJ IRU DQG HGXFDWLQJ \RXQJ FKLOGUHQ
 %LUWK WR DJH \HDUV LQ JURXS VHWWLQJV $Q LQ
GHSWK VWXG\ RI RUJDQL]DWLRQDO VWUDWHJLHV FKLOG

&RXUVHV

(&('RFWRUDO 'LUHFWHG 6WXG\
5HSHDWDEOH
3UHUHTXLVLWH $GPLVVLRQ WR WKH (G ' SURJUDP DQG SHUPLVVLRQ RI WKH DGYLVRU
,QGLYLGXDOL]HG DQG LQGHSHQGHQW VFKRODUO\ LQYHVWLJDWLRQ DQG UHVHDUFK RI DQ LPSRUWDQW WRSLF LQYROYLQJ WHDFKLQJ OHDGLQJ DQG VWXGHQW OHDUQLQJ LQ HOHPHQWDU\ VFKRROV 7KH IRFXV FRQWHQW DQG H[SHFWDWLRQV IRU WKLV VWXG\ ZLOO EH IRUPDOO\ HVWDEOLVKHG E\ WKH GRFWRUDO VWXGHQW DQG VXSHUYLVLQJ SURIHVVRU

(&('LVVHUWDWLRQ
5HSHDWDEOH
3UHUHTXLVLWH KRXUV RI JUDGXDWH OHYHO UHVHDUFK FRXUVHV
&RXUVH ZRUN VXSSRUWV DQG JXLGHV GRFWRUDO FDQGLGDWHV LQ WKH LPSOHPHQWDWLRQ RI WKHLU UHVHDUFK DQG WKH GHYHORSPHQW DQG GHIHQVH RI WKH GLVVHUWDWLRQ 7KLV IRUPDW DQG VWUXFWXUH ZLOO SURYLGH LQGLYLGXDO WLPH ZLWK WKH 'RF DQSSRUWV RUU•€ °€ÀP0@p@P0@ p • p@`&**R**ÊÍ2H

0

/HYLQH $GGLWLRQDOO LVIRWHHWGLXFDWLRQ UROHV VFKR
DO OHDGHUV OHDUQ KRZ WR WRWVZSWK LQQWPHDQDWLQJ GDLO\ VFK
GHPRQVWUDWLQJ HWKLFDO DLQGUHTXLWDEOHWR HWKHLU FRQWHU
VKLS EHKDYLRUV DELGH E\ *HRVHDD &DQGLGDWHV H[DPLQH PDM
ODZ DQG WKH &RGH RI (WKLFVFKRROHRXLQHGXFDQQDJHPHQW S
WRUV LQ SURIHVVLRQDO SUDFWLFHWKPDHQDJHVWKRWKH IXQGLQJ
RSHUDWLRQV FRQVLVWHQWOSXEWKFUHGXEDWRQWRUJLD PRGH
*HRUJLD DQG IHGHUDO ODZ DQGGSHFLDOHQWWURGXFHG D
DQG IDFXOW\ OHJDO ULJKWV &DQGLGDWHVHJHWWDLQ NQRZOHGJH
VFKRRO EXVLQHVV PDQDJHPHQW LQ

('/ (WKLFDO /HDGHUVKLS LQJ DUHDV HGXFDWLRQDO IDFLOLW
3UHUHTXLVLWH $GPLVVLRQ WR QQG(PDSURJHPHQW VFKRRO EXGJHW
SHUPLVVLRQ RI LQVWUXFWRU DFFRXQWLQJ DQG DXGLWLQJ FDVK
7KLV FRXUVH LV GHVLJQHG WR SURPRWH GLVXUFKDVLQJ DQ
ZLWK DQ LQ GHSWK H[PLQDWLRQ GLVFXVVLRQV
DQG DQWLFLSDWHG HWKLFDOWLUDVWHPPHRV FRXUVH DQ
IDFLQJ OHDGHUV DQG WKH UROHHQJDJHPHQW\ LQ XQG
WLQ LQ RXU VRFLHW\ $GGUHVVHV WKHHDGXFDWLRQ
LVVXHV ZLOO OHDG WR WKH DVFHQWVVEDQJWRRVH IURP
3 VWXGHQWV LQFOXGLQJ WKRVHZKRFLVHUVH EDFNJUR
GLVDELOLWLHV DQG WKRVH ZKQGHUUHSUHVHQWHG SRSXODWLRQ
WLFDOO\ DQG FXOWXUDOO\ GLYHUVH &RXUVHV

('/ 3URJUDP (YDOXDWLYLW\ DQG
3UDFWLFH ZLWK 7HFKQRORJ\ HVHQW YHUVS€Q
3UHUHTXLVLWH $GPLVVLRQ WR (SURJUDP RU HDV(D ðð€OLQ@F p eRU€ÜGLVF ìð
SHUPLVVLRQ RI LQVWUXFWRU
7KLV FRXUVH SUHSDUHV HGXFDWLRQDO QHDGHUV WR ` ÕÕ7€P€0ARRO p€Þ •ð5 @QG p& Í9•
DSSO\ WHFKQRORJ\ WR HQKDQFH WKHLU SURIHVVLRQ
DO SUDFWLFH DQG WR LQFUHDVH WKHLU SURGXFWLYLW\
GHVLJQ DQG IDFLOLWDWH KLJK TXDOLW\ SURIHVVLRQDO
OHDUQLQJ H[SHULHQFHV WKDW KHOS RWKHU HGXFDWRUV
DSSO\ WHFKQRORJ\ WR HQKDQFH WKHLU SURIHVV
VLRQDO SUDFWLFH DQG WR LQFUHDVH WKHLU SURGXF
WLYLW\ DQG LPSOHPHQW WHFKQRORJ\ LQ ZD\V
WKDW VXSSRUW WKH HPHUJHQFH DQG HYROXWLRQ RI
SURIHVVLRQDO OHDUQLQJ FRPPXQLWLHV LQ VFKRROV
&DQGLGDWHV EHFRPH IDPLOLDU ZLWK LQIRUPDWLRQ
DQG WHFKQRORJ\ WRROV FRPPRQ WR LQIRUPDWLRQ
DJH SURIHVVLRQDOV (PSKDVLV LV SODFHG RQ FRP
SXWHU RSHUDWLRQV SUHVHQWDWLRQ DQG FRPPXQL
FDWLRQ WRROV PDQLSXODWLRQ LQWHUSUHWDWLRQ DQG
DQDO\VLV RI GDWD WKDW ZLOO OHDG WR WKH DFDGHPLF
VXFFHVV RI DOO 3 VWXGHQWV LQFOXGLQJ WKRVH
ZLWK OHDUQLQJ GLVDELOLWLHV DQG WKRVH ZKR FRPH
IURP OLQJXLVWLFDOO\ DQG FXOWXUDOO\ GLYHUVH
EDFNJURXQGV

('/ 6FKRRO 2SHUDWLRQV DQG &RP
PXQLW\ 5HODWLRQV
3UHUHTXLVLWH $GPLVVLRQ WR 0 (G SURJUDP RU
SHUPLVVLRQ RI LQVWUXFWRU
7KLV FRXUVH LV GHVLJQHG WR SURYLGH FDQGLGDWHV
ZLWK NQRZOHGJH RI PDMRU DUHDV RI VFKRRO EXVL
QHVV PDQDJHPHQW LQ SHUIRUPLQJ WKH GXWLHV RI
D VFKRRO DGPLQLVWUDWRU &DQGLGDWHV DUH SUH
SDUHG WR DVVXPH D OHDGHUVKLS UROH LQ GHFLVLRQ
PDNLQJ RI VFKRRO EXVLQHVV DIIDLUV $Q HIIRUW

('/ 0DQDJLQJ DQG 6XSSRUWLQJ &XUULFXOXP /HDGHUVKLS
7HFKQRORJ\ LQ 6FKRROV
3UHUHTXLVLWH $GPLVVLRQ WR 0 (G SURJUDP LQ (GXFDWLRQDO /HDGHUVKLS RU JUDGX
SHUPLVVLRQ RI LQVWUXFWRU (GXFDWLRQDO /HDGHUVKLS RU JUDGX
7KLV FRXUVH H[DPLQHV WKH /HDGHUVKLS DQG &XUULFXOXP &RQVLGHUDWLRQ
VXSSRUW DQG PDQDJH WHFKQRORJ\ 7KLV FRXUVH H[DPLQHV WKH GHVLJ
PD[LPL]H VWXGHQW OHDUQLQJ PHDQV DQG UHVHDUFK EDVHG WHFKQDLRQ RI F
HIÀFLHQF\ RI VFKRRO RSHUDWLRQV WHFKQRORJLHV WR
WR H[DPLQH WKH WHFKQLFDO LVVXHV RQ WKH LQVXSSRUW W
UHODWHG WHFKQRORJLHV LQFOXGLQJ EQW OLPLWHG
WR GHVNWRS ODSWRS FRPSXWHUV ZLUHG DQG
ZLUHOHVV QHWZRUNV YDULRXV LQVWUXFWLRQDO ,QVWUXFWLRQD
DGDPLQLVWUDWLYH DQG WHFKQLFDO VRIWZDUH DQG
,QWHUQHW WHFKQRORJLHV 7KLV FRXUVH H[SORUHV
YDULRXV PRGHOV RI WHFKQRORJ\ VXSSRUW DQG
SUHVHQW LGHDV RQ KRZ WR VXSSRUW WHFKQRORJ\
HIIHFWLYHO\ WKURXJK WHDPV RI WHDFKHUV VWX
GHQWV SDUHQWV DQG VFKRRO V\VWHP SHUVRQQHO
,Q DGGLWLRQ WKH FRXUVH DGGUHVVHV HPHUJ
LQJ WHFKQRORJLHV DQG WKHLU SRWHQWLDO XVH
LQ HGXFDWLRQ WKDW ZLOO OHDG WR WKH DFKLHYH
VXFFHVV RI DOO 3 VWXGHQWV LQFOXGLQJ WKRVH
ZLWK OHDUQLQJ GLVDELOLWLHV DQG WKRVH ZKR FRPH
IURP OLQJXLVWLFDOO\ DQG FXOWXUDOO\ GLYHUVH
EDFNJURXQGV

('/ &XUUHQW ,VVXHV LQ (GXFDWLRQ
DO /HDGHUVKLS
3UHUHTXLVLWH $GPLVVLRQ WR 0 (G SURJUDP LQ
(GXFDWLRQDO /HDGHUVKLS RU JUDGXDWH (GXFDWLRQDO
/HDGHUVKLS $GG 2Q &HUWLÀFDWLRQ SURJUDP
7KLV FRXUVH SURYLGHV D UHÁHFWLYH RYHUYLHZ
RI LVVXHV UHODWLQJ WR VFKRRO OHDGHUVKLS DQG
HGXFDWLRQDO DGPLQLVWUDWLYH OHDGHUVKLS SROLF\
DQG SUDFWLFH DQG HQFRPSDVVHV WKH ZLGH
UDQJH RI UHVSRQVLELOLWLHV HQJDJHG LQ E\ WKH
VFKRRO OHDGHU DV D FROODERUDWLYH PHPEHU RI D
OHDGHUVKLS WHDP 6SHFLDO DWWHQWLRQ LV JLYHQ WR
RUJDQL]DWLRQDO VWUXFWXUH DQG DGPLQLVWUDWLYH
SURFHVVHV LQ *HRUJLD SXEOLF VFKRROV

('/ ,QVWUXFWLRQDO /HDGHUVKLS

3UHUHTXLVLWH $GPLVVLRQ WR 0 (G SURJUDP LQ
(GXFDWLRQDO /HDGHUVKLS RU JUDGXDWH (GXFDWLRQDO
/HDGHUVKLS $GG 2Q &HUWLÀFDWLRQ SURJUDP
7KLV FRXUVH IRFXVHV RQ WKH UROH HGXFDWLRQDO
OHDGHUV SOD\ LQ LPSURYLQJ WKH WHDFKLQJ DQG
OHDUQLQJ SURFHVV ,W LQFOXGHV WKH DSSOLFDWLRQ
DQG SUDFWLFH RI LQVWUXFWLRQDO VXSHUYLVRU\
OHDGHUVKLS SKLORVRSK\ WKHRU\ DQG SULQFLSOHV
DV WKH\ JXLGH LQVWUXFWLRQDO OHDGHUVKLS EHKDY
LRU DQG DVVHVVPHQW RI WKH UHVXOWV RI LQVWUXF
WLRQDO OHDGHUVKLS EHKDYLRUV

&RXUVHV

HIÀFLHQF\ RI VFKRRO RSHUDWLRQV ,W LV GHVLJQHG WR H[DPLQH WKH WHFKQLFDO DVSHFWV RI EXLOGLQJ UHODWHG WHFKQRORJLHV LQFOXGLQJ EXW QRW OLPLWHG WR GHVNWRS ODSWRS FRPSXWHUV ZLUHG DQG ZLUHOHVV QHWZRUNV YDULRXV LQVWUXFWLRQDO DGPLQLVWUDWLYH DQG WHFKQLFDO VRIWZDUH DQG ,QWHUQHW WHFKQRORJLHV 7KLV FRXUVH ZLOO H[SORUH GLIIHUHQW PRGHOV RI WHFKQRORJ\ VXSSRUW DQG SUHVHQW LGHDV RQ KRZ WR VXSSRUW WHFKQRORJ\ HIIHFWLYHO\ WKURXJK WHDPV RI WHDFKHUV VWX GHQWV SDUHQWV DQG VFKRRO V\VWHP SHUVRQQHO ,Q DGGLWLRQ WKH FRXUVH ZLOO DGGUHVV HPHUJ LQJ WHFKQRORJLHV DQG WKHLU SRWHQWLDO XVHV LQ HGXFDWLRQ

('/ 3UDFWLFXP

WKURXJK WKRXJKWIXO DQDO\VLV RI WLKHLRWRDWDO*HQYLURQDQFH
URQPHQW DQG FDUHIXO SODQQLQJ IRU WKH IXWXUH
:LWKLQ WKH FRQWH[W RI VFKRURQWTXDQLWHUDWLRQLRQ WR (G6 L
WKLV GRFWRUDO VHPLQDU DGGUHVVHV WRKHUPRDFWL
FDO DSSOLFDWLRQ RI DOO DVSHFWVUR RGHLVWULEXWRUVH LV WK
OHDGHUVKLS DQG UHTXLUHV DÀFTXGZRLWNDQGRIRWKHOHDGH VNLO
IRUPV RI SUDFWLFDO SUREOWPREDVHGDWHGQLQJWKH LPSRUWDQ
6XFFHVVIXO FDQGLGDWHV ZLDQGHPSKDVHQWERRPOYLVLRQ IRU
FKDQJH SRUWIROLR WKDW PLQLPL]HVQFZLWKLQ VFKRRO DQG V
5DWLRQDOH IRU VFKRRO WUDQVIRUPDWLRQVWXDWHG 7KH FRUVH
XSRQ WKH SURIHVVLRQDO OLWHUDWXUHV+DQGWRFXOWXUHV IR
DQDO\VLV DQG DVVHVVPHQW JRYHUQRRQFHSWUHU FKDQJH SURFHV
PDQFH RQ FULWLFDO YDULDEFRQVLDWRHGVWRDVEXGWQWRQ DPRO
DFKLHYHPHQW F %HQFKPDUNLQJ FRPSDUDWLYH DQDOUHQWV DQG F
FRPPXQLW\ UHVRXUFHV G 3DUWLFLPDWRQVDORI GHYLQJ DERXW PF
RSPHQW SODQ DQG H (YDOXDWLRQ LW IXUWK
LPSDFW RI VWDWH DUWKRULW\ RQ
('/ ,QWHUFXOWXUDO &RPPXQLFDWLRQ GLVWULFWV WKURXJK
WLRQ *OREDO /HDUQLQJ UHODWLRQVKLSV WUHQGV DQG WK
3UHUHTXLVLWH DGPLVVLRQ WR SURFHGXUHV PDNLQJ DW WKH VWDV
7KH LQFUHDVLQJ GLYHUVLW\ IRFXVHG RQ HYDOXDWLQJ D YLRQ
FRPPLWPHQW WR VWDQGDUGV DQG 1&/% UHTXLUH
PHQWV PDNH FRPSHWHQFH LQ'LQWHUFXOWXUDO $VVHVVPHQW
FRPPXQLFDWLRQ D EDVLF UHDGLQHVVQVWLWXWLRQ
HGXFDWLRQ EDVHG RQ D VFKRRO EXGJH
WKH EDVLF HFRQRPLF FRQFSHWV D
('/ ,QWHUFXOWXUDO &RPPXQLFDWLRQ DFDVLV RI HGXFDWLRQDO ÀQDQF
WLRQ DQG *OREDO /HDUQLQJ LQHTXDOLW\ HGXFDWLRQ DQG HFR
3UHUHTXLVLWH $GPLVVLRQ WR DQGRWKHU HIIHFW RQ VWXGHQW SHU
7KH LQFUHDVLQJ GLYHUVLW\ FRXUVH RQ VSHWKRUPDQFH EDVH
FRPPLWPHQW WR VWDQGDUGV DQG 1&/% UHTXLUH
PHQWV PDNH FRPSHWHQFH LQ'LQWHUFXOWXUDO $VVHVVPHQW
FRPPXQLFDWLRQ D EDVLF UHDGLQHVVQVWLWXWLRQ
HGXFDWLRQ EDVHG RQ D VFKRRO EXGJH WR (G6 L
LV WKH GHYHORSPHQW RI NQRZOHGJHDQG LOOV
LQ JOREDO OHDUQLQJ 7KLV PRGXOHV GHVLJQHG WR SUR
SUDFWLFDO DSSOLFDWLRQ FRQWHXWKHU QHHGV WR OOV DQ
OHDGHUVKLS SDUWLFXODUO\ DVVHVVHG WR EXLOG FXU
LQJ UHODWLRQVKLSV ZLWK FRPPXQLWLHV DQG VWDNHKROGHUV WKDW IRFXV
DQG IDPLOLHV IURP RWKHU FXOWXUHV DQG EDFNJURXQGV K FROXXUV
JRDO RI WKLV FRXUVH LV WR SURYLGH VWXGHQWV ZLWK WKH
GHQWV KDYH HTXLWDEOH RSSRUWXQLWLHV WR DFKLHYH
DFDGHPLF H[FHOOHQFH LQ WKHLU FKRVHQ PDMRU DQG
FXUULFXOXP 7KLV FRXUVH ZLOO DOVR H[SORUH WKH
SHUIRUPDQFH EDVHG IRUPDW
('/ ,QWHUFXOWXUDO &RPPXQLFDWLRQ DFDVLV RI HGXFDWLRQDO ÀQDQF
WLRQ DQG *OREDO /HDUQLQJ LQHTXDOLW\ HGXFDWLRQ DQG HFR
3UHUHTXLVLWH $GPLVVLRQ WR DQGRWKHU HIIHFW RQ VWXGHQW SHU
7KH LQFUHDVLQJ GLYHUVLW\ FRXUVH RQ VSHWKRUPDQFH EDVH
FRPPLWPHQW WR VWDQGDUGV DQG 1&/% UHTXLUH
PHQWV PDNH FRPSHWHQFH LQ'LQWHUFXOWXUDO $VVHVVPHQW
FRPPXQLFDWLRQ D EDVLF UHDGLQHVVQVWLWXWLRQ
HGXFDWLRQ EDVHG RQ D VFKRRO EXGJH WR (G6 L
LV WKH GHYHORSPHQW RI NQRZOHGJHDQG LOOV
LQ JOREDO OHDUQLQJ 7KLV PRGXOHV GHVLJQHG WR SUR
SUDFWLFDO DSSOLFDWLRQ FRQWHXWKHU QHHGV WR OOV DQ
OHDGHUVKLS SDUWLFXODUO\ DVVHVVHG WR EXLOG FXU
LQJ UHODWLRQVKLSV ZLWK FRPPXQLWLHV DQG VWDNHKROGHUV WKDW IRFXV
DQG IDPLOLHV IURP RWKHU FXOWXUHV DQG EDFNJURXQGV K FROXXUV
JRDO RI WKLV FRXUVH LV WR SURYLGH VWXGHQWV ZLWK WKH
GHQWV KDYH HTXLWDEOH RSSRUWXQLWLHV WR DFKLHYH
DFDGHPLF H[FHOOHQFH LQ WKHLU FKRVHQ PDMRU DQG
FXUULFXOXP 7KLV FRXUVH ZLOO DOVR H[SORUH WKH
SHUIRUPDQFH EDVHG IRUPDW
LPSDFW RI VWDWH DUWKRULW\ RQ
WLRQ *OREDO /HDUQLQJ UHODWLRQVKLSV WUHQGV DQG WK
3UHUHTXLVLWH DGPLVVLRQ WR SURFHGXUHV PDNLQJ DW WKH VWDV
7KH LQFUHDVLQJ GLYHUVLW\ IRFXVHG RQ HYDOXDWLQJ D YLRQ
FRPPLWPHQW WR VWDQGDUGV DQG 1&/% UHTXLUH
PHQWV PDNH FRPSHWHQFH LQ'LQWHUFXOWXUDO $VVHVVPHQW
FRPPXQLFDWLRQ D EDVLF UHDGLQHVVQVWLWXWLRQ
HGXFDWLRQ EDVHG RQ D VFKRRO EXGJH WR (G6 L
LV WKH GHYHORSPHQW RI NQRZOHGJHDQG LOOV
LQ JOREDO OHDUQLQJ 7KLV PRGXOHV GHVLJQHG WR SUR
SUDFWLFDO DSSOLFDWLRQ FRQWHXWKHU QHHGV WR OOV DQ
OHDGHUVKLS SDUWLFXODUO\ DVVHVVHG WR EXLOG FXU
LQJ UHODWLRQVKLSV ZLWK FRPPXQLWLHV DQG VWDNHKROGHUV WKDW IRFXV
DQG IDPLOLHV IURP RWKHU FXOWXUHV DQG EDFNJURXQGV K FROXXUV
JRDO RI WKLV FRXUVH LV WR SURYLGH VWXGHQWV ZLWK WKH
GHQWV KDYH HTXLWDEOH RSSRUWXQLWLHV WR DFKLHYH
DFDGHPLF H[FHOOHQFH LQ WKHLU FKRVHQ PDMRU DQG
FXUULFXOXP 7KLV FRXUVH ZLOO DOVR H[SORUH WKH
SHUIRUPDQFH EDVHG IRUPDW
LPSDFW RI VWDWH DUWKRULW\ RQ
SUDFWLFDO DSSOLFDWLRQ RI VWDWH DUWKRULW\ RQ

WKDW ZLOO LQFUHDVH VWXGHQW OHDUQLQJ DQG DFKLHYHPHQW ,Q DGGLWLRQ FDQGLGDWH ZLOO EH

&RXUVHV

('5' ,QWURGXFWLRQ WR /LWHUDU\ DQG GXOV
&RDFKLQJ LQ 0LGGOH DQG 6HFRQGDU\
6FKRROV
3UHUHTXLVLWH ('5' DQG ('5'
7KLV FRXUVH SURYLGHV FDQGLGDWHV WR
LQWURGXFWLRQ WR /LWHUDU\ &RDFKLQJ
DQG VHFRQGDU\ VFKRROV &DQGLGDWHV
WKH VWXG\ RI SHGDJRJ\ DQG UHODWHG
DUHDV RI FROODERUDWLRQ VXSHUYLVLRQ
VLRQDO GHYHORSPHQW SURJUDPV
VWUDWHJ\ &DQGLGDWHV ZLOO VXSHUYLVH
FDO FRQWHQW DQG DSSO\ QHZ
VFKRROV

1RWH $ ÀHOG FRPSRQHQW LV
('5' 7HDFKLQJ 5HDGLQJ LQ WKH
&RQWHQW $UHD WR 'LYHUVH /HDUQHUV

3UHUHTXLVLWH $GPLVVLRQ WR 6HQLRU
,QFOXVLYH (GXFDWLRQ ('8&
7HDFKLQJ /HDUQLQJ ,, IRFXVHV RQ
IRUPV RI UHVHDUFK EDVHG VWXGHQW
IRU VWXGHQWV ZLWK GLVDELOLWLHV
ZLOO EH RQ GLUHFW LQVWUXFWLRQ
WLRQ PHWDFRJQLWLYH DQG WHDFKHU
PDQDJHPHQW FRRSHUDWLYH DQG
IXQFWLRQDO VNLOOV GHYHORSPHQW
LQVWUXFWLRQ XVLQJ WDVN DQDO\VLV
FXHV SDUWLFXODUO\ DV WKHVH
WR HGXFDWLRQ RI VWXGHQWV ZLWK
&RXUVH FRQWHQW ZLOO EXLOG RQ
SUHVHQWHG LQ 7HDFKLQJ DQG
WKH GHYHORPHQW RI FXUULFXOXP
WLRQ WKDW IROORZV WKH SUHFHSWV
DQG XQLYHUVDO GHVLJQ LQ
6SHFLDO DWWHQWLRQ ZLOO EH
IRUPV RI VWXGHQW DVVHVVPHQW
GDWD FROOHFWLRQ SURFHGXUHV
RYHUDOO LPSDFW RI LQVWUXFWLRQ
LQJ ZLOO EH GLVFXVVHG

1RWH 3URRI RI SURIHVVLRQDO OLDELOLW\ LQVXUDQFH LV
UHTXLUHG SULRU WR ÀHOG HPSHULHQFH PHW

('5' /LWHUDF\ ,QVWUXFWLRQ IRU
(QJOLVK /DQJXDJH /HDUQHUV
3UHUHTXLVLWH $GPLVVLRQ WR WKH ,QFOXVLYH (GXFD
WLRQ JUDGXDWH SURJUDP
7KH IRFXV RI WKLV FRXUVH LV GLYHUVLW\
VL]LQJ LVVXHV UHODWHG WR
VWXGHQWV ZLWK (QJOLVK DV
ODQJXDJH 6SHFLÀF LVVXHV LQFOXGH
QRW UHVWULFWHG WR ÀUVW
DFTXLVLWLRQ NQRZOHGJH RI
OLQJXLVWLF DQG SKRQHPLF
LQVWUXFWLRQ ÁXHQF\ FRPSUHKHQVLRQ
DUHD LQVWUXFWLRQDO VWUDWHJLHV

VLRQDO DQG YRFDEXODU\ DQG DGXOW
HDQGLQJ LVVXHV 'LVWULEXWHG VFKR
'6/ ZLOO EH HPEHGGHG LQ WKH FR
6WXGHQWV ZLOO DOVR GHYHORS DQ
&RQWHQW DUHDV DQG SURGXFH LQ
&RPSOHWLRQ RI WKH FRXUVH LV
UHTXLUHG IRU
MRE HPEHGGHG SURFHV
6WXGHQW WHDFKLQJ IRU
3UHUHTXLVLWH WR WKH
WLRQ (62/ (G ' 3URJUDP
7KLV FRXUVH IRFXVHV XSRQ G\VOH
VRUHTXLUHG GLQJ GLVRUGHUV HPS
LVVXHV UHODWHG WR HDUO\ DFTXL
VWXGHQWV DQG FRPSUHKHQVLRQ 6SH
DQG EXW DUH QRW UHVWULFW
RI ODQJXDJH OHDUQLQJ SKRQHPLF
SKRQRORJLFDO ÁXHQF\ F
DQG LQVWUXFWLRQDO VWUDWHJLHV
VLRQ RQ HDUO\ DFTXLVLWLRQ SUDFWL
SHFLÀF DWWHQWLRQ WR HDUO\ DQG
IRFXVHV RQ WHDFKLQJ WR JLY
WLRQ WKDW IROORZV SUDFWLFXO
DQG LQVWUXFWLRQDO VWUDWHJLHV U
DSSOLHG WR HDUO\ DQG

7&(GXFDWLRQ

(8& HDUQLQJ HQ
DQG LVVXHV WKDW LQIOXHQFH
3UHUHTXLVLWH $GPLVVLRQ WR 0DVW
7HDFKLQJ (8&
DOO DFDGHPLF DUHDV
$W WKH XQLTXH D
HQGDQJHUHG WKH GH
FKRRO\ DQG GLVWULEW\ RI OHDUQ
QLQJ VSDQ GHVLJQHG WR GR
DGROHVFHQWV DQG \RXQJ DGXOWV
FLDO PRUDO HPRWLRQDO SK\VLF
SV\FKRORJLFDO GHYHORSPHQW 7K
DQG SUIOFLSOHV RI OHDUQLQJ DQ
DUH H[DPLQHG DQG UHODWHG WR G
DQG GLYHUVLW\ DV LW KDV LQÁXHQ
ODQJXDJH FRJQLWLYH DELOLW\ JH
QHGV 7KH XVH RI WHFKQRORJ\ LQ
ZLOO LQFOXGH ZRUG SURFHVVLQJ
DSSOLFDWLRQV QWHUQHW UHVHDU
ZDUHQHVV FRPSXWHU SRWHQWLR GH
WKH HIIHFWLYH XVH RI
('8& /3DFWLFXP
3UHUHTXLVLWH $GPLVVLRQ WR 0DVW
7HDFKLQJ (8&
$Q HIIHFWLYH VHUYLFH OHDUQ
ZKLFK FDQGLGDWHV ZRUN PHQWRU

&RXUVHV

6WDQGDUGV 1%376 7RSLFV LQFOXGH LQWHUDFWLYH GLVFXVVLRQ DERXW SURIHVVLRQDOLVP LQ HGXFD WLRQ JUDQW ZULWLQJ GHYHORSLQJ SUHVHQWDWLRQV IRU SURIHVVLRQDO RUJDQL]DWLRQV OHJDO LVVXHV SROLWLFDO LQÁXHQFHV DQG RWKHU FRQWHPSRUDU\ LVVXHV LQÁXHQFLQJ HGXFDWLRQ

('8& %HVW 3UDFWLFHV LQ 6HFRQG DU\ 6FKRROV
3UHUHTXLVLWH $GPLVVLRQ WR JUDGXDWH VWXG\ LQ HGXFDWLRQ

DQDO\]H WKH WHFKQRORJLFDO HQYLURQPHQW LQ 3
VHWWLQJV 7RSLFV LQFOXGH DXWKRULQJ V\VWHPV
QHWZRUNV PXOWLPHGLD FRPSXWHU EDVHG PDQ
DJHPHQW DQG WHFKQRORJLFDO HQYLURQPHQWV

('8& 5HDGLQJ LQ WKH (OHPHQWDU\
6FKRRO
3UHUHTXLVLWH $GPLVVLRQ WR JUDGXDWH VWXG\ LQ
HGXFDWLRQ
$ VWXG\ RI WKH SULQFLSOHV DQG SUDFWLFHV RI
GHYHORSPHQWDO UHDGLQJ (PSKDVLV LV SODFHG
RQ WKH VWXG\ RI WKH UHDGLQJ SURFHVV DQG WKH
RUJDQL]DWLRQDO DQG PDQDJHPHQW DVSHFW RI
UHDGLQJ LQVWUXFWLRQ

('8& %HVW 3UDFWLFHV LQ 7HDFK
LQJ DQG /HDUQLQJ LQ &RQWHQW)LHOG
3UHUHTXLVLWH $GPLVVLRQ WR JUDGXDWH VWXG\
7KLV FRXUVH IRFXVHV RQ SUHSDULQJ H[SHUW
WHDFKHU OHDGHUV WR LPSOHPHQW UHVHDUFK EDVHG
EHVW SUDFWLFHV RI H[HPSODU\ VFKRROV &RXUVH
SURYLGHV H[WHQVLYH H[DPLQDWLRQ RI OHDUQLQJ
WKHRULHV DQG WKHLU DSSOLFDWLRQ WR GLYHUVH FODVV
URRPV &XUUHQW UHQHZDO DQG UHIRUP LQLWLDWLYHV
LQ $PHULFDQ VFKRROV DUH H[DPLQHG LQ GHSWK
ZLWK WKH DLP RI SUHSDULQJ H[SHUW WHDFKHU
OHDGHUV IRU FROODERUDWLYH UROHV LQ WKHLU VFKRRO
DQG GLVWULFW

('8& (GXFDWLRQDO 5HVHDUFK

3UHUHTXLVLWH ('8&
7KLV FRXUVH LV GHVLJQHG WR DVVLVW VWXGHQWV LQ
GHYHORSLQJ DQ XQGHUVWDQGLQJ RI TXDOLWDWLYH
DQG TXDQWLWDWLYH UHVHDUFK PHWKRGV DQG GH
VLJQV IRFXVLQJ RQ LQWHUSUHWDWLRQ DQG DSSOLFD
WLRQ UHODWLQJ WR FODVVURRP SUDFWLFHV

('8& 0XOWLSOH /LWHUDFLHV LQ
6FKRROV DQG &RPPXQLWLHV
3UHUHTXLVLWH $GPLVVLRQ WR JUDGXDWH VWXG\ LQ
HGXFDWLRQ
&DQGLGDWHV ZLOO GHYHORS D IRXQGDWLRQDO
XQGHUVWDQGLQJ RI WKH PXOWLSOH RIWHQ FRQVHW
LQJ FRQFHSWLRQV RI OLWHUDF\ WKDW FDQ IRVWHU RU
LPSHGH OHDUQLQJ LQ DGROHVFHQW FODVVURRPV
DW WKH PLGGOH JUDGHV DQG VHFRQGDU\ OHYHOV
/LWHUDF\ SUDFWLFHV LQ KRPHV VFKRROV DQG WKH
ODUJHU FRPPXQLWLHV ZLOO EH REVHUYHG DQG LQ

LP\Õ00P@`pÀ€€`
7LÁ GHUTXD0ðÀp€P@` € ÀpÀ€` 0` a0 `
3UHUÍRE ``ÀÀp€ÐpÀ p0DÀ0°0€p pÍ€P \Õ$` 0P@`pÀRQ <ÓDTUL NÁLHGH
OE0€p% ° ••sRU /LWHUG H LÕ0U W°QJ DTPPXQLRQKRPYIh0 P0 Äp P p
3ì" XUZFCWE pp0p€ÐpÀ RE ÀÜÂ%V pHT` ° ••3RU ÅÜÂQFF\ OOE0À

3UHU$WE0À<ÓDTGH\Õ$À€QG€ yUEL OEÜSUZ]ì% P RGH FBKTRQK SUDFW
3HP0P@`pÀp0À H½Å ° pPP D`€P Ð@ì¬Õ)rQ

P

PHDVXUHPHQW RI LQWHOOLJHQFH DFKLHYHPHQW
FUHDWLYLW\ DQG RWKHU GLPHQVLRQV RI JLIWHGQHVV
9DULRXV SODQV IRU LGHQWLÀFDWLRQ DUH H[DPLQHG
LQFOXGLQJ WKH FDVH VWXG\ DQG 6WDWH RI *HRUJLD
UHJXODWLRQV

('8& &XUULFXOXP 'HYHORSPHQW
DQG 3URJUDP 'HVLJQ LQ *LIWHG (GXFD
WLRQ
3UHUHTXLVLWH $GPLVVLRQ WR 0 (G SURJUDP DQG
('8&
7KLV FRXUVH LV GHVLJQHG WR H[SORUH DQG DSSO\
NQRZOHGJH DERXW FXUULFXOXP WKHRU\ IRU WKH
GHYHORSPHQW RI HIIHFWLYH SURJUDPV LQ JLIWHG PH DQG DQG

WLRQ LQF3pGHYOR DQG p0 p°€P€pÌÕ3`RD WLRQ 0WKH FD 0

6WPR U L 0 0 D@fp $@@ p ° € 0 ` @ € 0P

(56 (GXFDWLRQDO 5HVHDUFK

('56 $GYDQFHG 4XDQWLWDWLYH
5HVHDUFK 0HWKRGV
3UHUHTXLVLWH $GPLVVLRQ WR WKH (G ' 3URJUDP
7KLV FRXUVH LV DQ LQ GHSWK VWXG\ RI DQG DS
SOLFDWLRQ RI VHOHFWHG TXDQWLWDWLYH UHVHDUFK
GHVLJQV &RXUVH DOVR LQYROYHV DGYDQFHG VWXG\
RI GHVFULSWLYH VWDWLVWLFV LQIHUHQWLDO VWDWLVWLFV
DQG QRQ SDUDPHWULF WHVWV WUDGLWLRQDOO\ XWLOL]HG
LQ VRFLDO DQG EHKDYLRUDO UHVHDUFK (PSKDVLV
ZLOO EH SODFHG RQ XQGHUVWDQGLQJ WKH SURFHVV
RI VRFLDO DQG HGXFDWLRQDO UHVHDUFK LQ DSSOLHG
VHWWLQJV &DQGLGDWHV ZLOO GHHSHQ WKHLU H[SHU
WLVH LQ GHVLJQLQJ DQG FRQGXFWLQJ UHVHDUFK DQG
DQDO\]LQJ TXDQWLWDWLYH GDWD &DQGLGDWHV ZLOO
FRQGXFW WKHVH DQDO\VHV XVLQJ TXDQWLWDWLYH VWD
WLVWLFDO VRIWZDUH LQWHUSUHW WKHLU ÀQGLQJV DQG
FRPPXQLFDWH WKHLU UHVXOWV HWKLFDOO\ FOHDUO\
DQG HIIHFWLYHO\

(+6 $SSOLHG ([HUFLVH DQG +HDOWK 6FLHQFH

(+6 /HDGHUVKLS DQG $GPLQLVWUD
WLRQ LQ $SSOLHG ([HUFLVH DQG +HDOWK
6FLHQFH
3UHUHTXLVLWH *UDGXDWH VWDWXV
7KLV FRXUVH LV GHVLJQHG WR GHYHORS XQGHU
VWDQGLQJV DQG VNLOOV LQ WKH DUHDV RI OHDGHU
VKLS DGYDQFHG DGPLQLVWUDWLRQ LQ WKH FRQWH[W
RI WKH GHOLYHU\ RI H[HUFLVH DQG KHDOWK VFLHQFH
UHODWHG SURJUDPV LQ D YDULHW\ RI VHWWLQJV (I
IHFWLYH OHDGHUVKLS FRPSHWHQFLHV VW\OHV ÀVFDO
PDQDJHPHQW DSSURDFKHV SROLF\ IRUPXODWLRQ
DQG PRGLÀFDWLRQ VHYHUDO GHFLVLRQ PDNLQJ
PRGHOV FKDQJH SURFHVVHV VWUDWHJLF SODQQLQJ
LQ H[HUFLVH DQG KHDOWK VFLHQFH LV HPSKDVL]HG
6SHFLÀF LPSOLFDWLRQV RI DGPLQLVWUDWLYH VWUXF
WXUHV FXUUHQW WUHQGV LVVXHV UHOHYDQW WR HWKL
FDO OHDGHUVKLS LQ H[HUFLVH DQG KHDOWK SURPR
WLRQ DQG HGXFDWLRQDO SURJUDPV LV DGGUHVVHG

(+6 7UHQGV DQG ,VVXHV LQ $S
SOLHG ([HUFLVH DQG +HDOWK 6FLHQFH

WLRQ D PRGC`0ÍV5QJ•b HOH`Õ]V5`0@pÜ 0PRJUÀ À`-À0€ 0°@`ÀĐ€p 0
6\ÕmV2p 0

YDULHW\ RI VHWWLQJV 7KH FRQWHQW DQG FURPSHLWHQ
FLHV RI WKLV FRXUVH LV DOL
&RPPLVVLRQ IRU +HDOWK (GX
WLDOLQJ &RPSHWHQF\ %DVHG
*UDGXDWH /HYHO +HDOWK (G

(+6 $GYDQFHG ([HUFLVH 3K\VLRORJ\
3UHUHTXLVLWH *UDGXDWH VWDQGLQ
H[HUFLVH SK\VLRORJ\ RU HTXLYDOHQW
RI LQVWUXFWRU

$Q DGYDQFHG VWXG\ WKURXJKRXW
VLRQ DQG ODERUDWRU\ H[SHULHQFH
UHFHQW WRSLFV LQ H[HUFLVH
LFV LQFOXGH PHWDERLF UHJXODWL
QHXURPXVFXODU DQG PROHFXODU
UHODWHG WR H[HUFLVH WHPSHUDWXUH UHJXODWLQ
GXULQJ H[HUFLVH DFXWH DQG FKURQLF H[HUFLVH
RORJLFDO UHVSRQVHV WR DQG DGDSWDWLRQV WR
SUHJQDQF\ DQG ERG\ FRPSRVLWLRQ
ZHLJKW FRQWURO

(+6 ([HUFLVH 3V\FKRORJ\
3UHUHTXLVLWH *UDGXDWH VWDQGLQ
7KLV FRXUVH DGGUHVVHV SK\VLFDO DFWLYLW\ DQG
H[HUFLVH DV WKH\ UHODWH WR SV\FKRORJLFDO KHDOWK
LVVXHV)DFWRUV UHODWHG WR SK\VLFDO DFWLYLW\
DQG H[HUFLVH DGRSWLRQ DQG DGKHUHQFH DQG
LQWHUYHQWLRQ SODQQLQJ DUH DOVR DGGUHVVHG 7KH
FRXUVH LV WDXJKW ZLWK DQ HPSKDVLV RQ DSSOLFD
WLRQ RI FRQFHSWV DQG GLVFXVVLRQ DQG HYDOXD
WLRQ RI WKH VFLHQWLÀF UHVHDUFK

(+6 $GPLQLVWUDWLYH)LHOG ([SHUL
HQFH
3UHUHTXLVLWH (+6 DQG DSSURYDO IURP PDMRU
SURIHVVRU DQG JUDGXDWH FRPPLWWHH
6XSHUYLVHG DGPLQLVWUDWLYH ÀHOG H[SHULHQFH LQ
DQ DSSURYHG H[HUFLVH VFLHQFH DQG RU KHDOWK
SURPRWLRQ VHWWLQJ 7KLV LQGLYLGXDOO\ GHVLJQHG
H[SHULHQFH LV GHVLJQHG WR HQKDQFH DGPLQLV
WUDWLYH DQG VXSHUYLVRU\ VNLOOV RI WKH JUDGX
DWH VWXGHQW UHOHYDQW WR WKH GHVLUHG DUHD RI
H[SORUDWLRQ RU LGHQWLÀHG QHHG DUHD 7KH ÀHOG
H[SHULHQFH SXUSRVH SURMHFW GXUDWLRQ DQG
VLWH PXVW EH DSSURYHG E\ WKH VWXGHQW·V PDMRU
SURIHVVRU DQG JUDGXDWH FRPPLWWHH

(+6 $GYDQFHG /DERUDWRU\ 7HFK
QLTXHV LQ ([HUFLVH 3K\VLRORJ\
3UHUHTXLVLWH (+6 (+6 DQG DGPLVVLRQ
WR WKH JUDGXDWH SURJUDP
7HFKQLTXHV DQG UHVHDUFK DSSOLFDWLRQV IRU PHD
VXULQJ DVVHVVLQJ DQG HYDOXDWLQJ SK\VLRORJL
FDO SDUDPHWHUV

(+6 0DVWHU·V 3URMHFW LQ $SSOLHG
([HUFLVH DQG +HDOWK 6FLHQFH
3UHUHTXLVLWH &RUH SURJUDP FRPSOHWHG DQG
DSSURYDO IURP PDMRU SURIHVVRU DQG JUDGXDWH
FRPPLWWHH
$ SURMHFW WR EH FRPSULVHG RI D FDSVWRQH H[SH
ULHQFH WKDW OHDGV WR DQ DFWXDO SURGXFW VXFK DV
D SXEOLVKDEOH MRXUQDO DQG RU OLWHUDWXUH UHYLHZ
DUWLFOH SRVLWLRQ SDSHU WHDFKLQJ DLG LQVWUXF
WLRQDO YLGHRWDSH SURJUDP RU IDFLOLW\ GHYHORS
PHQW ZHE VLWH RQ OLQH FRXUVH PDWHULDOV ODE

3UHUaTXLVLWH &RUH SURJUD3LQ „€P`°

(1(' $SSOLHG 5HVHDUFK DQG
7KHRU\ LQ /LWHUDWXUH
3UHUHTXLVLWH $GPLVVLRQ WR WKH (G ' LQ $GROHV
FHQW (GXFDWLRQ (QJOLVK SURJUDP DQG SHUPLVVLRQ

(1*/ 7HFKQRORJ\ DQG 0HGLD LQ
(QJOLVK DQG /DQJXDJH $UWV
3UHUHTXLVLWH $GPLVVLRQ WR JUDGXDWH VWXG\ LQ
HGXFDWLRQ
)RFXV RQ WKH FXUUHQW HIIHFWV DQG SRWHQWLDO
RI WHFKQRORJ\ DQG PXOWLPHGLD LQ ZULWLQJ
UHDGLQJ DQG OLWHUDWXUH LQVWUXFWLRQ 6WXGHQWV
H[SORUH ZD\V WHFKQRORJ\ LV FKDQJLQJ UHDGLQJ
DQG ZULWLQJ SURFHVVHV LQ VFKRRO WKH ZRUN
SODFH DQG LQ GDLO\ OLIH DQG GHYHORS HIIHFWLYH
ZD\V RI LQWHJUDWLQJ WHFKQRORJ\ LQWR LQVWUXF
WLRQDO SURJUDPV

(1*/ (QJOLVK 6WXGLHV LQ WKH
6FKRROV
3UHUHTXLVLWH $GPLVVLRQ WR JUDGXDWH VWXG\ LQ
HGXFDWLRQ
5HYLHZ RI WKH ÀHOG RI (QJOLVK 6WXGLHV WRGD\
LQFOXGLQJ UHODWLRQVKLSV DPRQJ FRQFHSWV WKDW
JXLGH WKH ÀHOG HVSHFLDOO\ LQ VFKRROV 6WXGHQWV
ZLOO H[SORUH VWUDWHJLHV IRU LQWHJUDWLQJ YDULRXV
HOHPHQWV RI (QJOLVK 6WXGLHV LQFOXGLQJ ZULW
LQJ UHDGLQJ OLWHUDWXUH ODQJXDJH DQG OLWHUDF\
VWXGLHV LQ VFKRODUVKLS DQG LQ WHDFKLQJ 7RSLFV
ZLOO LQFOXGH VWDQGDUGV DQG DVVHVVPHQW LQ
(QJOLVK /DQJXDJH $UWV HVSHFLDOO\ WKRVH DVVR
FLDWHG ZLWK 1DWLRQDO %RDUG &HUWLÀFDWLRQ DQG
WKH 1DWLRQDO &RXQFLO RI 7HDFKHUV RI (QJOLVK
VWDQGDUGV IRU LQVWUXFWLRQ

(1*/ 6SHFLDO 7RSLFV 5H
SHDWDEOH 5HJXODU *UDGHV
3UHUHTXLVLWH $GPLVVLRQ WR JUDGXDWH VWXG\ LQ
HGXFDWLRQ DQG SHUPLVVLRQ RI DGYLVRU LQVWUXFWRU
GHSDUWPHQW FKDLU DQG GLUHFWRU JUDGXDWH VWXG\
LQ HGXFDWLRQ
([SORUDWLRQ RI D VSHFLÀFDOO\ GHVLJQHG WRSLF
LQ DQ DGYDQFHG OHYHO VHPLQDU ZLWK H[WHQVLYH
UHDGLQJ ZULWLQJ DQG SUHVHQWLQJ DVVLJQPHQWV

(1*/ 'LUHFWHG 6WXG\ 5H
SHDWDEOH 5HJXODU *UDGHV
3UHUHTXLVLWH $GPLVVLRQ WR JUDGXDWH VWXG\ LQ
HGXFDWLRQ DQG SHUPLVVLRQ RI DGYLVRU LQVWUXFWRU
GHSDUWPHQW FKDLU DQG GLUHFWRU JUDGXDWH VWXG\
LQ HGXFDWLRQ
'HWDLOHG DGYDQFHG OHYHO H[DPLQDWLRQ RI D
WRSLF VHOHFWHG DQG VKDSHG FROODERUDWLYHO\ E\
WKH LFV 0 €€@pÀ ðU

&RXUVHV

&RXUVHV

&RXUVHV

EDVLF DQDO\WLFDO WRROV ZKLOH DOVR OHDUQLQJ KRZ WKH\ VXSSRUW EXVLQHVV VWUDWHJ\ DQG OHDG HUVKLS SULQFLSOHV

*%$ 3ULQFLSOHV RI /HDGHUVKLS

7RGD\ PRVW H[SHUWV DJUHH WKDW WKH GHJUHH WR ZKLFK RUJDQL]DWLRQV HIIHFWLYHO\ FRP SHWH³DQG LQ PDQ\ FDVHV VXFFHHG RU IDLO³LV GHWHUPLQHG E\ KRZ HIIHFWLYHO\ WKH\ DSSO\ ERWK EXVLQHVV DFXPHQ DQG WHDPZRUN $ PDQ DJHU·V DELOLW\ WR ZRUN ´VPDUWµ DQG LQWHUDFW HIIHFWLYHO\ ZLWKLQ D WHDP VHWWLQJ ZLOO VLJQLÀ FDQWO\ GHWHUPLQH KHU SHUVRQDO VXFFHVV LQ DQ\ FDUHHU ,Q DGGLWLRQ WR LWV IRFXV RQ OHDGHUVKLS SULQFLSOHV LW DOVR LQWURGXFHV WKH VWXGHQW WR WKH IRXQGDWLRQV RI OLIHORQJ OHDUQLQJ WKH UROH DQG LPSDFW RI SHUVRQDOLW\ RQ WHDP G\QDPLFV WKH SULQFLSOHV RI FRDFKLQJ DQG WKH EDVLF EXLOGLQJ EORFNV RI KLJK SHUIRUPDQFH WHDPV

*%$ %XVLQHVV 6WUDWHJ\ $QDO\VLV IRU ([HFXWLYH 'HFLVLRQ 0DNLQJ

7KH IXQGDPHQWDO FKDOOHQJH VHOI LPSRVHG RQ DQ\ EXVLQHVV LV WKH GHYHORSPHQW DQG LPSOHPHQWDWLRQ RI D VRXQG EXVLQHVV PRGHO DQG VWUDWHJ\ 7KRVH WKDW VXFFHHG DUH DOVR FKDUDFWHUL]HG E\ LQ GHSWK FRPSHWHQFLHV LQ ÀQDQFLDO DQG RSHUDWLRQDO DQDO\VLV WR VXSSRUW RWKHU FRPSHWHQFLHV LQKHUHQW LQ WKHLU KXPDQ FDSLWDO DVVHWV 7KLV FRXUVH SURYLGHV WKH IRXQGDWLRQDO WHFKQLTXHV DQG PRGHOV IRU VRXQG EXVLQHVV VWUDWHJ\ GHYHORSPHQW DQG PDQDJHPHQW DQG LQWURGXFHV WKH VWXGHQW WR VHYHUDO RI WKH WUDGLWLRQDO WRROV PHWKRGRORJLHV DQG WHFK

HQYLURQPHQW XVLQJ D WHFKQRORJ\ XQLTXH WR WKH ([HFXWLYH 0%$ SURJUDP DQG SULYDWH LQ SHUVRQ PHHWLQJV ZLWK D PHPEHU RI WKH IDFXOW\ ZKR VSHFLDOL]HV LQ FDUHHU FRDFKLQJ

*%$ ([SHULHQFLQJ %XVLQHVV LQ D *OREDO (QYLURQPHQW
5DSLG DQG SHUVLVWHQW DGYDQFHV LQ WHFKQRORJ\

(2*HRJUDSK\

HFRQRPLF LQIUDVWUXFWXUHV 7KLV FRXUVH LV
FXVVHV WKH JOREDO VFDOH LVVXHV IDFHG E\ WRGD\·V
PXOWL QDWLRQDO FRUSRUDWLRQV ZLWK D VSHFLDO
IRFXV RQ GHYHORSLQJ WKH SHUVRQDO NQRZOHGJH
DQG VNLOOV QHHGHG WR FRPSHWH LQ WRGD\·V
WKLV HQYLURQPHQW 7RSLFV LQFOXGH WKH LQWHUQDO
WLRQDO DSSHFWV RI DFFRXQWLQJ AQDQFH PDUNHW
LQJ HFRQRPLFV DQG ODZ

*%$ 4XDOLW\ 0DQDJHPHQW
([FHOOHQW H[HFXWLRQ LV ZKDW VHSDUDWHV JUHDW
RUJDQL]DWLRQV IURP JRRG RUJDQL]DWLRQV 7KLV
FRXUVH WHDFKHV WKH EDVLF PDQDJHPHQW VR WKDW SURFHVVHV DW WKHLU RUJDQL]DWLRQ FDQ HQVXUH
DFKLHYH WKHLU RUJDQL]DWLRQDO JRDOV $IWHU VXFFHVVIXOO\ FRPSOHWLQJ WKLV FRXUVH WKH
6LJPD *UHHQ %HOW FHUWLÀFDWH

1RWH $7 7 (0%$ 3URJUDP RQO\

*%$,QWHUQDWLRQDO ,QWHUQVKLS

3UHUHTXLVLWH &RPSOHWLRQ RI DW OHDVW KRXUV RI
OHYHO 0%$ FRXUVHV PXVW EH DSSURYHG E\
WKH 0%$ SURJUDP DFDGHPLF FRRUGLQDWRU QR LQ
WHUQVKLS ZRUN FDQ EH FRPSOHWHG LQ WKH VWXGHQW·V
FRXQWU\ RI OHJDO UHVLGHQFH RU FRXQWU\ RI RULJLQ
$ VXSHUYLVHG WKUHH FUHGLW LQWHUQVKLS LV
HQFH RI RQH DFDGHPLF VHPHVWHU RU WZR
RXO\ DSSURYHG EXVLQHVV RU WDO DJHQF\
WDO DJHQF\ VXEVWLWXWH IRU DQ LQWHUQVKLS

1RWH $ UHVHDUFK SDSHU LV
7KH FRXUVH ZLOO EH JUDGHG RQ D YDULHW\ RI
XQVDWLVIDFWRU\ 6 8 EDVLV

*%$ 6SHFLDO 7RSLFV LQ %XVLQHVV
DQG $FFRXQWLQJ 5HSHDWDEOH
3UHUHTXLVLWH $GPLVVLRQ WR WKH &ROOHJH RI %%$ DQG
DSSURYDO E\ DGYLVRU DQG GHSDUWPHQW FKDLUSHU
VRQ
6HOHFWHG FRQWHPSRUDU\ WRSLFV LQ DFFRXQW\
RI LQWHUHVW WR IDFXOW\ VWXGHQWV DQG SURIHVVLRQV

*%$ 6SHFLDO 3URMHFWV LQ %XVL
QHVV DQG $FFRXQWLQJ 5HSHDWDEOH
QRW WR H[FHHG VHPHVWHU KRXUV
&RUHTXLVLWH 0XVW EH DSSURYHG E\ DFDGHPLF
FRRUGLQDWRU DQG VHOHFWHG LQVWUXFWRU
6SHFLDO SURMHFWV IRU VWXGHQWV ZKR ZLVK WR
SXUVXH DGYDQFHG ZRUN RQ D VSHFLDO]HG DUHD
LQ D VPHFLDOL]HG DUHD

(2 6HFLDO 7RSLFV 5H
SHDWDEOH 5HJXODU*UDGHV
3UHUHTXLVLWH $GPLVVLRQ WR JUDG
HGXFDWLRQ DQG SHUPLVVLRQ RI DGY
GHSDUWPHQW FKDLU DQG GLUHFWRU
LQ HGXFDWLRQ
6SHFLDO WRSLFV RI LQWHUHVW WR
GHQWV
(2 \LHOGHG GXG\ 5H
SHDWDEOH 5HJXODU*UDGHV
3UHUHTXLVLWH $GPLVVLRQ WR JUDG
HGXFDWLRQ DQG SHUPLVVLRQ RI DGY
GHSDUWPHQW FKDLU DQG GLUHFWRU
LQ HGXFDWLRQ
7KLV FRXUVH FRYHUV VSHFLDO WRS
UHJXODU FRXUVH RIIHULQJV

*(52 *HURQWRORJ\

*(52 6RFLRFXOWXUDO $VSHFWV RI $JLQJ

)RFXVHV RQ WKH VRFLDO DQG FXOWXUDO DVSHFWV RI DJLQJ 7RSLFV FRYHUHG GHPRJUDSKLF YDULDEOHV DQG WUHQGV FXOWXUH DQG VRFLDOL]DWLRQ VRFLDO VWUXFWXUH IDPLO\ SROLWLFV UHOLJLRQ ZRUN DQG UHWLUHPHQW HGXFDWLRQ VRFLDO SUREOHPV DVVRFLDWHG ZLWK DJLQJ OLYLQJ DUUDQJHPHQWV

KRZ WR OHDG LQ ZD\V WKDW FUHDWH D VWURQJ HWKL FDO FXOWXUH LQFOXGLQJ KRZ WR LGHQWLI\ DQG WUDLQ ´HWKLFDO FXOWXUH FDUULHUVµ

,1&0 ,QWHUQDWLRQDO &RQÁLFW 0DQDJHPHQW

,1&0 7KHRULHV DQG $QDO\VLV LQ ,QWHUQDWLRQDO &RQÁLFW 0DQDJHPHQW

3UHUHTXLVLWH $GPLVVLRQ WR WKH 3K ' SURJUDP 7KLV FRXUVH IRFXVHV RQ WKH WKHRULHV DQG UHVHDUFK LQ WKH LQWHUQDWLRQDO DUHQD WKURXJK ZKLFK WR DQDO\]H FRQÁLFWV 7KHVH LQFOXGH EXW DUH QRW OLPLWHG WR FXOWXUH JHQGHU HFRQRPLFV HWKQLFLW\ UDFH KLVWRU\ JHRJUDSK\ UHVRXUFHV DQG UHOLJLRQ 6WXGHQWV H[DPLQH WKH HPHUJHQFH RI WKH &RQÁLFW 0DQDJHPHQW ÀHOG DV ZHOO DV WKH KLVWRULFDO SHUVSHFWLYHV DQG FXUUHQW WKHRULHV LQ WKH ÀHOG RI &RQÁLFW 0DQDJHPHQW 7KLV FRXUVH SURYLGHV DQ RYHUYLHZ RI WKH WHUPLQRORJ\ RI WKH ÀHOG DV ZHOO DV YDULRXV SHUVSHFWLYHV IRU VWXG\LQJ WKH FRQWLQXXP RI ZDU DQG SHDFH PDNLQJ 6WXGHQWV ZLOO H[DPLQH WKH SDUDGLJPV DQG ZRUOGYLHZV WKURXJK ZKLFK SDUWLHV YLHZ FRQÁLFW DQG FRQVLGHU WKH SRVVLEOH RXWFRPHV EDVHG RQ WKRVH SDUDGLJPV DQG HYDOXDWH &RQ ÁLFW 0DQDJHPHQW PHWKRGRORJLHV IRU FRQGXFW LQJ UHVHDUFK EDVHG RQ YDULRXV SDUDGLJPV ZRUOGYLHZV DQG FRQÁLFW VLWXDWLRQV 6WXGHQWV L:LOO HD DQG ZRUÀPÀ€`0À LFW 0DP`°00OLJL V

LQWHUYLHZ DQG VDPSOLQJ WHFKQLTXHV 6WXGHQWV ZLOO DSSO\ WKHVH WHFKQLTXHV XVLQJ VWDWLVWLFDO VRIWZDUH SDFNDJHV

,1&0 $GYDQFHG 4XDQWLWDWLYH 0HWKRGV
3UHUHTXLVLWH ,1&0 7KLV FRXUVH ZLOO FRYHU DGYDQFHG WRSLFV EH\RQG WKRVH FRYHUHG LQ ,1&0 VXFK DV QRQOLQHDU VWDWLVWLFDO PHWKRGV JDPH WKHRU\ VRFLDO QHWZRUNLQJ DQDO\VLV VSDWLDO VWDWLVWLFDO DQDO\VLV DQG DJJUHJDWH GDWD DQDO\VLV 7KH ODE FRPSRQHQW ZLOO LQYROYH DGYDQFHG XVH RI VWDWLVWLFDO SDFNDJHV LQ WKH DQDO\VLV RI LQWHUQD WLRQDO FRQÁLFWV

,1&0 $GYDQFHG 4XDOLWDWLYH 0HWKRGV
3UHUHTXLVLWH ,1&0 7KLV FRXUVH ZLOO FRYHU DGYDQFHG WRSLFV EH\RQG WKRVH FRYHUHG LQ ,1&0 VXFK DV SKHQRPHQRORJ\ JURXQGHG WKHRU\ DQG FRQWHQW DQDO\VLV 7KH ODE FRPSRQHQW ZLOO LQYROYH SURMHFWV LQWHUSUHWLQJ DQG DSSO\LQJ WKHVH WHFKQLTXHV XVLQJ VRIWZDUH IRU TXDOLWD WLYH DQDO\VLV H J 19,92 DQG RU SUDFWLFDO ÀHOG H[SHULHQFH

,1&0 ,QWHUQDWLRQDO 3URJUDP DQG 0DQDJHPHQW (YDOXDWLRQ 3UHUHTXLVLWH ,1&0 ,1&0 DQG ,1&0

7KLV FRXUVH ZLOO IRFXV RQ GHYHORSLQJ VNLOOV DQG NQRZOHGJH IRU SURJUDP DQDO\VLV LQFOXG LQJ FDXVDO HIIHFWV RI LQWHUYHQWLRQV DQG RXW FRPHV LQVWUXPHQW HYDOXDWLRQ LQ LQWHUQDWLRQDO FRQÁLFW PDQDJHPHQW ð0P H@Í,1×ep
1&0 ,QWH6 HQ@ 7URJQJ LQFOXGJQÍvX TXJ ð FHsp°0 ` 3UHUHTXL LV€NLP9,9QWP DQ FR@FOXG
ÍvX 3UHUHTXLVLWH ,1&0\sp p€ÐÐ0 0Àu €€0ps00a2t°0 QGH DQÊS@ @,

DEOH HOHFWLYHV FURVV OLWHUDWXUHV DQG GHVLJQHG L
VWXG\ WUDQVIHU FRXUVHV DFFHSWHG IURP RWKHU LQ
ZLWK WKH IDFXOW\ DGYLVRU DQG FRPPXQLW\ EDVHG RSWLRQV L
VFUHHQLQJ WUDQVLWLRQ DQG UHF
,1&0 'LVVHUWDWLRQ 3URSRVDO &RPPXQLFDWLRQ VNLOOV UHTXLUH
6HPLQDU RWKHU SURIHVVLRQDOV DQG SDUHQ
3UHUHTXLVLWH $SSURYDO RI WKH DGYLVRU LQ
7KLV FRXUVH ZLOO FXOPLQDWH LQ &OLQLFDO LVVXHV
RI WKHRUHWLFDOO\ VLJQLÀFDQW UHVHDUFK TXHVWLRQV
VRXQG DQG SROLF\ UHOHYDQW UHVHDUFK TXHVWLRQV
GHYHORSPHQW RI WKH GLVVHUWDWLRQ 3URSRVDO 6WXGHQWV
SHHU UHYLHZ RI UHVHDUFK SURSRVDOV 'LVVHUWDWLRQ
UDWLRQ RI DUWLFOHV IRU SXEOLFDWLRQ 3HHU UHYLHZ WR 0(G
HQFHV DQG SXEOLFDWLRQ ,QFOXVLYH (GXFDWLRQ RU JUDGXDWH
WLRQ DGG RQ SURJUDP
,1&0 ,QWHUQVKLS ZLWK ,QFOXVLYH IRFXVHV RQ V\VWHPDW
WLRQDO 2UJDQL]DWLRQ RI WKH SK\VLFDO DIIHFWLYH EHKD
3UHUHTXLVLWH ,1&0 ,1&0 HGXFDWLRQDO GHYHORSPHQW RI LQ
DQG DSSURYDO RI WKH SUHOLPLQDU\ LQWHOOHFWX
7KLV FRXUVH RIIHUV DQ RSSRUWXQLW\ IRU VWXGHQWV 7KHUH
GHQW WR GR VKRUW WHUP ZRUN LQ D FRQÀGHQWLDO SHUFHSWXDO PR
RI KLV KHU FKRLFH 6WXGHQWV DQG FOLQLFDO SHUFHSWXDO RI WKH SU
VXEVWDQWLYH SURMHFW UHODWHG WR WKHLU UROH DQG FRQWULEXWLRQ WR
LQ D IRUHLJQ FRQWU\ IRU DQ LQWHQVLYH SHULRG RI WLPH &OLQLFDO
JRYHUQPHQWDO RU QRQ JRYHUQPHQWDO RUJDQL]DWLRQV
QL]DWLRQ 7KLV PD\ SURYLGH WKH VWXGHQW ZLWK
DQ RSSRUWXQLW\ WR ZRUN ZLWK 3K' VWXGHQWV IURP
ODQJXDJH UHTXLUHPHQW 3UHUHTXLVLWH &OLQLFDO SODFHPHQ
RQ WKH LQWHUQVKLS WKH SURJUDP GLUHFWRU DQG
VWXGHQW PXVW DGUHH RQ UHTXLUHPHQWV RI WKH KDYLURDO
FRPSOHWLRQ RI WKH LQWHUQVKLS WKHVLV RU GRFWRUDO
ZLOO IDFLOLWDWH WKHVH H[SHULHQFHV WR 0(G
VWXG\ DEURDG FRQQHFWLRQV ,QFOXVLYH (GXFDWLRQ RU JUDGXDWH
WLRQ DGG RQ SURJUDP
,1&0 3K' 'LVVHUWDWLRQ 5HVHDUFK UHSHDWDEOH GDWDV WR GHYHORS VNLOOV LQ LP
3UHUHTXLVLWH ,1&0 DQG ,QWHUYLHZ VWUDWHJLHV IRU SRVLWLYH
FHVVIXO FRPSOHWLRQ RI FRPSUHKHQVLYH EDVLF DSSOLFDWLRQ RI
GHQW·V GLVVHUWDWLRQ SURSRVDO RU HTXLYDOHQW ÀHOGZRUN
EHIRUH UHJLVWHULQJ IRU ,1&0 ,QYROYHPHQW LQ FOLQLFDO € p 0˜WLRQ
7KLV FRXUVH LQFOXGHV GLVVHUWDWLRQ ZRUNLQJ
XQGHU WKH GLUHFWLRQ RI WKH PDMRU SURIHVVRU
1RQ WUDGLWLRQDO IRUPDW LQGHSHQGHQW UHVHDUFK
DQG SUHSDUDWLRQ RI WKH GRFWRUDO GLVVHUWDWLRQ

,1(' ,QFOXVLYH (GXFDWLRQ

,1(' ,QFOXVLYH (GXFDWLRQ 3URFH
GXUHV
3UHUHTXLVLWH $GPLVVLRQ WR 0(G SURJUDP LQ
,QFOXVLYH (GXFDWLRQ RU JUDGXDWH LQFOXVLYH HGXFD
WLRQ DGG RQ SURJUDP
7KLV FRXUVH IRFXVHV RQ XQGHUVWDQGLQJ QD
WLRQDO DQG VWDWH ODZV SROLFLHV DQG SURFHGXUHV
LQ LQFOXVLYH HGXFDWLRQ SURJUDPV (PSKDVLV
LV SODFHG RQ WUDFLQJ WKH ZD\ VWXGHQWV ZLWK

,1(' (GXFDWLRQ RI 6WXGHQWV ZLWK
6HYHUH 'LVDELOLWLHV
3UHUHTXLVLWH $GPLVVLRQ WR 0(G SURJUDP LQ
,QFOXVLYH (GXFDWLRQ RU JUDGXDWH LQFOXVLYH
HGXFDWLRQ DGG RQ SURJUDP ,1(' DQG
,1('
7KLV FRXUVH IRFXVHV RQ D V\VWHPDWLF DQDO\VLV
RI WKH SK\VLFDO DIIHFWLYH EHKDYLRUDO DQG
HGXFDWLRQDO SUREOHPV RI LQGLYLGXDOV ZLWK VH
YHUH GLVDELOLWLHV LQWHOOHFWXDO DQG EHKDYLRUDO
7KHUH LV DQ HPSKDVLV RQ HWLRORJLFDO SHUFHS

,1(' 6RFLDO 6NLOOV 6WUDWHJLHV

3UHUHTXLVLWH $GPLVVLRQ WR 0 (G SURJUDP LQ
,QFOXVLYH (GXFDWLRQ RU JUDGXDWH LQFOXVLYH
HGXFDWLRQ DGG RQ SURJUDP ,1(' DQG
,1('
7KLV FRXUVH IRFXVHV RQ PHDQV RI UHGXFLQJ LQ
DSSURSULDWH EHKDYLRUV WKURXJK D PXOWLIDFHWHG
SUR VRFLDO VNLOOV FXUULFXOD

,1(' 0RGHOV RI 'HYHORSPHQW
DQG 3URFHGXUHV IRU $VVHVVPHQW
3UHUHTXLVLWH $GPLVVLRQ WR 3UHVFKRRO ,QFOXVLYH
(GXFDWLRQ $GG RQ 3URJUDP
7KLV FRXUVH IRFXVHV RQ WKH SK\VLFDO VHQVRU\
DIIHFWLYH EHKDYLRUDO ODQJXDJH DQG FRJQLWLYH
GHYHORSPHQW RI LQIDQWV DQG FKLOGUHQ 7KHUH
LV DQ HPSKDVLV RQ WKH HWLRORJLFDO VRFLRORJL
FDO PHGLFDO DQG LQWHUYHQWLRQ HIIHFWV RQ ERWK
W\SLFDO DQG DW\SLFDO GHYHORSPHQW ,VVXHV
FRQFHUQLQJ SURFHGXUHV IRU IRUPDO DQG LQIRU
PDO DVVHVVPHQW DUH VWUHVVHG 7KH LPSRUWDQFH
RI FROODERUDWLQJ ZLWK IDPLOLHV DV SDUWQHUV
WKURXJK D IDPLO\ FHQWHUHG DSSURDFK LV DOVR
HPSKDVL]HG &OLQLFDO DSSOLFDWLRQV LQ D ÀHOG
VLWH DUH LQFOXGHG

1RWH 3URRI RI SURIHVVLRQDO OLDELOLW\ LQVXUDQFH LV
UHTXLUHG IRU SODFHPHQW

,1(' 'HYHORSPHQWDOO\ $SSURSUL
DWH 3UDFWLFHV IRU &XUULFXODU 'HVLJQ DQG
0HWKRGV RI ,QWHUYHQWLRQ
3UHUHTXLVLWH $GPLVVLRQ WR 3UHVFKRRO ,QFOXVLYH
(GXFDWLRQ $GG RQ 3URJUDP
7KLV FRXUVH IRFXVHV RQ GHYHORSPHQWDOO\ DS
SURSULDWH DQG GHYHORSPHQWDOO\ GLIIHUHQW SUDF
WLFHV IRU LQIDQWV DQG SUHVFKRRO FKLOGUHQ ZLWK
GLVDELOLWLHV $FFRPPRGDWLRQV IRU DSSURSULDWH
VHWWLQJV SDUHQWDO DQG RU IDPLO\ LQYROYHPHQW
DQG FROODERUDWLRQ ZLWK RWKHU SURIHVVLRQDOV
DUH HPSKDVL]HG

1RWH 3URRI RI SURIHVVLRQDO OLDELOLW\ LQVXUDQFH LV
UHTXLUHG SULRU WR ÀHOG H[SHULHQFH SODFHPHQW

,1(' /DQJXDJH /HDUQLQJ
(PHUJHQW /LWHUDF\
3UHUHTXLVLWH $GPLVVLRQ WR 3UHVFKRRO ,QFOXVLYH
(GXFDWLRQ $GG RQ 3URJUDP
7KH GHYHORSPHQW DQG LQWHUDFWLRQ RI RUDO
ZULWWHQ DQG VRFLDO ODQJXDJH DUH SUHVHQWHG
6WXGHQWV ZLOO OHDUQ ZD\V WR DFFHVV DQG
HQKDQFH RUDO DQG VRFLDO ODQJXDJH GHYHORS
PHQW LQ LQIDQWV DQG SUHVFKRRO FKLOGUHQ ZLWK
GLVDELOLWLHV 7KH HIIHFW RI FXOWXUDO FRQWH[W DQG
GLIIHUHQW ODQJXDJH @VRFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
(GXFDWLRQ $À ` R
Q Zç`DQJXL 1G W @ €0" 0"•0 Pp6)Ü&QJGLg OH<¢€€•FEP (½À €Ê(NÆFG SF€ 3UHV F

WKHVH VWXGHQWV 0XOWL GLVFLSOLQDU\ WHDPV DOVR GHYHORS SURMHFW
WLRQ VHUYLFH FRRUGLQDWLRQ DQG SDUWLFLSDWH LQ SURIHVVLRQDO
DGGUHVVLQJ PHGLFDO QHHGV LQ WKH FRPPXQLW\ 7KH FRXUVH DOVR
URRP VHWWLQJ ZLOO EH HPSKDVL]HG

,1(' &ROODERUDWLYH 3UDFWLFHV

3UHUHTXLVLWH $GPLVVLRQ WR 0(G 3URJUDP
7KLV FRXUVH LV GHVLJQHG WR DVVLVW WHDFK
HUV LQ RUFKHVWUDWLQJ FXOWXUDOO\ UHVSRQVLYH
FODVVURRPV SDUWLFXODUO\ IRU VWXGHQWV ZLWK
GLVDELOLWLHV DQG WKRVH ZKR DUH FXOWXUDOO\ DQG
OLQJXLVWLFDOO\ GLYHUVH 7KH FRXUVH IRFXVHV RQ
GHYHORSPHQW RI FROODERUDWLYH FRPPXQLFDWLRQ
DQG FRQVXOWDWLYH VNLOOV QHFHVVDU\ IRU ZRUN
LQJ ZLWK IDPLOLHV FODVVURRP WHDFKHUV UHODWHG
VHUYLFHV SUDFWLWLRQHUV FRPPXQLW\ UHVRXUFH
SHUVRQQHO DQG RWKHUV WR IDFLOLWDWH GHOLYHU\ RI
DSSURSULDWH VHUYLFHV IRU GLYHUVH OHDUQHUV

,1(' &XOWXUDO ,VVXHV IRU (62/
7HDFKHUV
3UHUHTXLVLWH $GPLVVLRQ WR 0(G 0$7 RU (62/
HQGRUVHPHQW SURJUDP
7KLV FRXUVH LV GHVLJQHG WR GHYHORS D NQRZO
HGJH EDVH DERXW FXOWXUH LWV LQÁXHQFH RQ
OHDUQLQJ DQG WHDFKLQJ DQG LWV UROH LQ LQWHU
FXOWXUDO FODVVURRP VHWWLQJV ,Q WKLV FRXUVH
SURVSHFWLYH (62/ WHDFKHUV ZLOO H[DPLQH
PDMRU WKHRULHV UHODWHG WR HGXFDWLQJ D FXOWXU
DOO\ GLYHUVH VWXGHQW ERG\ DQG WHDFKHUV ZLOO
GHYHORS VWUDWHJLHV IRU HQVXULQJ WKDW (62/
VWXGHQWV GHYHORS NQRZOHGJH RI PDLQVWUHDP
FXOWXUH DV WKH\ EHFRPH SURÀFLHQW LQ (QJOLVK

,1(' $SSOLHG /LQJXLVWLFV IRU
(62/ 7HDFKHU
3UHUHTXLVLWH $GPLVVLRQ WR 0(G 0$7 RU (62/
HQGRUVHPHQW SURJUDP
3ULQFLSOHV RI OLQJXLVWLF V\VWHPV DQG WKHLU
DFTXLVLWLRQ DV WKH\ RFFXU LQ ÀUVW DQG VHF
RQG ODQJXDJHV &DQGLGDWHV ZLOO H[SORUH WKH
UHODWLRQVKLS RI RUDO DQG ZULWWHQ ODQJXDJH DQG
EHFRPH IDPLOLDU ZLWK DVVHVVPHQW WHFKQLTXHV
DQG GHYLFHV IRU HYDOXDWLRQ RI WKH GHYHORS
PHQW RI (QJOLVK DV DQ DGGLWLRQDO ODQJXDJH

,1(' 0HWKRGV DQG 0DWHULDOV IRU
7HDFKLQJ (62/
3UHUHTXLVLWH $GPLVVLRQ WR 0(G 0$7 RU
(62/ HQGRUVHPHQW SURJUDP DQG ,1('
DQG ,1('
,Q WKLV FRXUVH SURVSHFWLYH (62/ WHDFKHUV
ZLOO GHYHORS VNLOOV LQ ZULWLQJ DGDSWLQJ
DQG LPSOHPHQWLQJ FXUULFXOD FULWLTXLQJ DQG
VHOHFWLQJ PDWHULDOV DQG DSSO\LQJ VWUDWHJLHV
IRU WHDFKLQJ UHDGLQJ ZULWLQJ VSHDNLQJ DQG
OLVWHQLQJ WR VSHDNHUV RI RWKHU ODQJXDJHV EDVHG
XSRQ (QJOLVK ODQJXDJH SURÀFLHQF\ OHYHO DQG

&RXUVHV

WRSLF LQYROYLQJ WHDFKLQJ OHDGLQJ DQG VWXGHQW

WHDPV 3URMHFW PDQDJHPHQW VRIWZDUH ZLOO EH XVHG WR IDFLOLWDWH WHDP SURMHFWV DQG SURMHFW UHSRUWLQJ

,6 LQIRUPDWLRQ 6HFXULW\ $GPLQLV WUDWLRQ
3UHUHTXLVLWH)XOO DGPLVVLRQ WR WKH 06,6 SUR JUDP RU SHUPLVVLRQ RI WKH JUDGXDWH SURJUDP GLUHFWRU
([DPLQDWLRQ RI FXUUHQW 6WDQGDUGV RI 'XH &DUH DQG %HVW %XVLQHVV 3UDFWLFHV LQ ,QIRUPDWLRQ 6H FXULW\ ,QFOXGHV H[DPLQDWLRQ RI VHFXULW\ WHFK QRORJLHV PHWKRGRORJLHV DQG SUDFWLFHV)RFXV LV RQ HYDOXDWLRQ DQG VHOHFWLRQ RI RSWLPDO VHFXULW\ SRVWXUH 7RSLFV LQFOXGH HYDOXDWLRQ RI VHFXULW\ PRGHOV ULVN DVVHVVPHQW WKUHDW DQDO\VLV RUJDQL]DWLRQDO WHFKQRORJ\ HYDOXDWLRQ VHFXULW\ LPSOHPHQWDWLRQ GLVDVWHU UHFRYHU\ SODQQLQJ DQG VHFXULW\ SROLF\ IRUPXODWLRQ DQG LPSOHPHQWDWLRQ

,6 ,QIRUPDWLRQ 6HFXULW\ 7HFK QRORJLHV
3UHUHTXLVLWH ,6
'HWDLOHG H[DPLQDWLRQV RI WKH DSSOLFDWLRQ RI WHFKQLFDO FRQWUROV WR SURWHFW WKH FRQÀGHQWLDO
ƒp€``°€PP „p€``° °UHP 0 0 LFV LQFOU\
S6 ìQIRFDPVHRGHPHPOHWHBÎÀÀ0@pe` ÙBUHUHTXLVLWH ,6 LRF

&RXUVHV

,6 ,7 /HDGHUVKLS 3UHUHTXLVLWH ,6 RU SHUPLVVLRQ RI WKH JUDP GLUHFWRU

7KLV FRXUVH IRFXVHV RQ WKH DQ RYHUDOO RUJDQL]DWLRQDO VWUXFWXUH RI WKH HQWHUSULVH LWVHOI GHVFULEHV LWV UROH LQ XVLQJ ,7 DQG LGHQWLILHV VXSSRUW WHFKQRORJ\ DUFKLWHFWXUH 1RWH LW FRQWDLQV OHDGHU IROORZHU DQG VLWXDWLRQ WKDW LQÁXHQFH ,7 GHFLVLRQ PDNLQJ DUH GLVFXVVHG RI WKH &,2 ZLWKLQ WKH RUJDQL]DWLRQ LV DOVR GLVFXVVHG

,6 ,QIRUPDWLRQ 6\VWHPV 3UHUHTXLVLWH)XOO DGPLVVLRQ WR WKH JUDP RU SHUPLVVLRQ RI WKH JUDGXDWH SURJUDP GLUHFWRU

0RGHUQ LQIRUPDWLRQ V\VWHPV FRQWDLQ SXUFKDVHG FRPSRQHQWV ZKLFK PXVW EH VHOHFWHG LQWHJUDWHG WHVWHG DQG LQVWDOOHG 7KLV FRXUVH DGGUHVVHV WKH VNLOOV UHTXLUHG WR GHYHORS V\VWHP 5)3V HYDOXDWH FRQWUDFWV DQG FRQWUDFWRUV DQG PDQDJH JLHV LQVWDOODWLRQ SODQQLQJ

,6 ,QIRUPDWLRQ 7HFKQRORJ\ YLFHV 3UHUHTXLVLWH)XOO DGPLVVLRQ WR WKH JUDP RU SHUPLVVLRQ RI WKH GLUHFWRU 'HVLJQ DQG PDQDJHPHQW RI WKH WHFKQRORJ\ LQIUDVWUXFWXUH VXSSRUWLQJ RUJDQL]DWLRQ 7RSLFV LQFOXGH 0DQDJLQJ KHOS GHVNV FXVWRPHU VXSSRUW XVHU DFFRXQWV DQG XVHUV GHYHORSLQJ SURIHVVLRQDO VWDII SROLFLHV DQG SURFHGXUHV SURJUDPV IRU ,6 HPSOR\HHV GRFXPHQWDWLRQ PDQDJHPHQW DQG PDUNHWLQJ ,7 SURGXFWV ,QWHUQDO DQG H[WHUQDO FOLHQWV DUH FRQVLGHUHG

,6 6SHFLDO 7RSLFV LQ ,QIRUPDWLRQ 6\VWHPV 3UHUHTXLVLWH 0XVW EH DSSURYHG E\ JUDGXDWH SURJUDP GLUHFWRU ([SORUDWLRQ RI VHOHFWHG FRQWHPSRUDU\ WRSLFV RI LQWHUHVW WR WKH VWXGHQW DQG VSRQVRULQJ IDFXOW\

1RWH &DQ EH UHSHDWHG IRU FUHGLW

,6 6SHFLDO 3URMHFWV LQ ,QIRU 3UHUHTXLVLWH 0XVW EH DSSURYHG E SURJUDP GLUHFWRU

,6 7RSLFV LQ &RPSXWHU (QGXFDWLRQ 3UHUHTXLVLWH 0XVW EH DSSURYHG E SURJUDP GLUHFWRU

,6 &XVWRPHU 5HODWLRQVKLS 0DQDJHPHQW 3UHUHTXLVLWH $GPLVVLRQ WR WKH SURJUDP GLUHFWRU RU WKH VXSHUYLVRU RI WKH FRXUVH DSSOLFDWLRQ RI WKHRULHV DQG WHFKQLTXHV WR UHODWLRQVKLS PDQDJHPHQW LQ WKH FRQWH[W RI EXVLQHVV DQG SURYLGH UHDO

,6 ,QIRUPDWLRQ 6HFXULW\ 3UHUHTXLVLWH 0XVW EH DSSURYHG E SURJUDP GLUHFWRU IRU WKH H[SORUDWLRQ DQG XQGHU WKH VXSHUYLVLRQ RI IDFXOW\ PHPEHUV LQ WKH FRQWH[W RI EXVLQHVV DQG SURYLGH UHDO

1RWH &DQ EH UHSHDWHG IRU FUHG

WLYHV IRU DOLJQLQJ FRPSHW7LWLYH VWUDWHJLHV DQG
FRUH FRPSHWHQFLHV DVVRFLDWHG ZLWK 6 $OVR
FRYHUHG DUH WKH GHYHORSPHQW DQG LPSOHPHQWDWLRQ WR WKH
WDWLRQ RI SROLFLHV DQG SODQVWUDWHJLHV DQG 7HFKQRORJLD
WLRQ JRDOV ZKLOH GHÀQLQJ7KH FRXUVH ZLOO GHW
VXSSRUW WKH RSHUDWLRQDO LQIUDVWUXFWXUH DQG GHY
VWUDWHJLF JRDOV RI WKH RUJDQL]DWLRQ 7KH FRXUVH
XQLWV DQG LQGLYLGXDO HPSOR\HHV 6WXGHQWV
DSSURDFKHV WR PDQDJLQJ WKH 3UH. VF
RUJDQL]DWLRQV LQFOXGLQJ WKH VHDUFK DQG6HOHFWLRQ
HV RI FRQWUROOLQJ WKH XVH RI WKH DVVHVVPHQ
H[SHULHQFH ZLWK HPHUJLQJ 7HFKQRORJLHV DQG
DUH GLVFXVVHG IURP D VWUDWHJLF SHUVSHFWLYH\ SO
WLRQDO WHFKQRORJ\ SODQ VWDWH

,7(& ,QVWUXFWLRQDO 7HFKQRORJ\

,7(& 'DWD $QDO\VLV DQG 6FKRRO
LPSURYHPHQW
3UHUHTXLVLWH $GPLVVLRQ WR JUDGXDWH VWXG\
,Q WKLV FRXUVH HGXFDWRUV ZLOO GHYHORS WKHLU
GDWD WR LGHQWLI\ VFKRRO LPSURYHPHQW QHHGV
DQG PDNH LQIRUPHG GHFLVLRQV 7KH FRXUVH
FKQDQH 7KH XOLPDWH JRDO RI WKH
SURGXFH HGXFDWLRQDO OHDGHUV ZKR HIIHFWLYHO
FROOHFW DQDO\]H DQG XVH GDWD WR LPSURYH
VFKRRO WKURXJK VXFFHVVIXOO\ GHPRQVWUDWHG
FKQDQH PRGHOV ,Q WKLV FRXUVH HGXFDWRUV
ZLOO OHDUQ WR V\VWHPLFDOO\ &RQGXFW DQG
PXOWLSOH VRXUFHV RI GDWD WR LGHQWLI\ LPSURYH
PHQW QHHGV GHWHUPLQH DQ HIIHFWLYH UHVSRQVH
PRQLWRU DQG FRUUHFW SURJUHVV DQG GHPRQ
VWUDWH VXFFHVV WR VWDNHKROGHUV $GGLWLRQDOO\
VWXGHQWV ZLOO OHDUQ

,7(& VW &HQWXU\ 7HDFKLQJ DQG
/HDUQLQJ
3UHUHTXLVLWH $GPLVVLRQ WR WKH 0 (G 3URJUDP LQ
,QVWUXFWLRQDO 7HFKQRORJ\
7KLV FRXUVH LQWURGXFHV WKH GHVLJQ DQG LPSOH
WLRQ RI OHDUQLQJ HQYLURQPHQWV WKDW DSSO\
WHFKQRORJ\ HQKDQFHG LQVWUXFWLRQ DQG DVVHVV
WR PD[LPL]H VWXGHQW OHDUQLQJ &DQGLGDWHV
ZLOO DSSO\ FXUUHQW UHVHDUFK DQG JXLGLQJ
GHVLJQ SULQFLSOHV WR GHVLJQ D VW FHQWXU\
OHDUQLQJ H[SHULHQFHV IRU VWXGHQWV

&RXUVHV

VHFRQGDU\ VFKRRO ÀHOG H[SHULHQFH LQ PDWK HPDWLFV WHDFKLQJ DQG VHPLQDUV

1RWH 3URI RI SURIHVVLRQDO OLDELOLW\ LQVXUDQFH LV UHTXLUHG SULRU WR VFKRRO SODFHPHQW

0$(' / 3UDFWLFXP ,,
3UHUHTXLVLWH ('8&
&RUHTXLVLWH 0$('
7KLV ÀHOG H[SHULHQFH LV GHVLJQHG WR SURYLGH WKH FDQGLGDWH ZLWK WKH RSSRUWXQLW\ WR DSSO\ DQG UHÁHFW RQ FRQFHSWV DGGUHVVHG LQ WKH FRUHTXLVLWH FRXUVH 0$(' &DQGLGDWHV DUH SODFHG LQ DSSURSULDWH VFKRRO VHWWLQJV ZKHUH WKH\ FDUU\ RXW GLUHFW DFWLYLWLHV &DQGLGDWHV PXVW KDYH D VDWLVIDFWRU\ SUDFWLFXP WR FRQWLQXH LQ WKH 0$7 SURJUDP ZLWKRXW UHPHGLDWLRQ

1RWH $ FULPLQDO EDFNJURXQG FKHFN DQG YHULÀFD WLRQ RI OLDELOLW\ LQVXUDQFH LV UHTXLUHG

0$(' 7HDFKLQJ 6HFRQGDU\ 0DWK HPDWLFV ,,
3UHUHTXLVLWH 0$(' 0$(' /
%XLOGLQJ XSRQ NQRZOHGJH DQG VNLOOV GHYHO RSHG LQ 0$(' FDQGLGDWHV FRQWLQXH WR H[DPLQH DQG DSSO\ FXUULFXOXP LVVXHV OHDUQ LQJ WKHRULHV WHDFKLQJ VWUDWHJLHV LQVWUXFWLRQDO PDWHULDOV DQG DVVHVVPHQW SURFHGXUHV IRU WHDFKLQJ VHFRQGDU\ VFKRRO PDWKHPDWLFV LQ GLYHUVH FODVVURRPV

0$(' / 3UDFWLFXP ,,,
3UHUHTXLVLWH 0$(' DQG 0$(' /
&RUHTXLVLWH 0$('
7KLV ÀHOG H[SHULHQFH LV GHVLJQHG WR SURYLGH WKH FDQGLGDWH ZLWK WKH RSSRUWXQLW\ WR DSSO\ DQG UHÁHFW RQ FRQFHSWV DGGUHVVHG LQ WKH FRUHTXLVLWH FRXUVHV 0$(' &DQGLGDWHV DUH SODFHG LQ DSSURSULDWH VFKRRO VHWWLQJV ZKHUH WKH\ REVHUYH DVVLVW DQG WHDFK &DQGLGDWHV PXVW KDYH D VDWLVIDFWRU\ SUDFWLFXP WR FRQWLQXH LQ WKH 0$7 SURJUDP ZLWKRXW UHPHGLDWLRQ

1RWH $ FULPLQDO EDFNJURXQG FKHFN DQG YHULÀFD WLRQ RI OLDELOLW\ LQVXUDQFH LV UHTXLUHG

0$(' +LVWRU\ RI 0DWKHPDWLFV

3UHUHTXLVLWH $GPLVVLRQ WR WKH JUDGXDWH FROOHJH $ KLVWRULFDO DQG FXOWXUDO GHYHORSPHQW RI PDWKHPDWLFV IURP DQFLHQW WLPHV WR WKH SUHVHQW 0@ `À€ H

&RXUVHV

DQG H[SHFWDWLRQV IRU WKLV FRXUVH

PDOO\ HVWDEOLVKHG E\ WKH

VXSHUYLVLQJ SURIHVVRU

0$(' 'LVVHUWDWLRQ
5HSHDWDEOH
3UHUHTXLVLWH KRXUV RI JUDGXDWH
FRXUVHV
&RXUVH ZRUN VXSSRUWV DQG JXLGHV
FDQGLGDWHV LQ WKH LPSOHPHQWDWLRQ
UHVHDUFK DQG WKH GHYHORSPHQW
RI WKH GLVVHUWDWLRQ 7KLV
ZLOO SURYLGH LQGLYLGXDO
WRUDO &RPPLWWHH DQG FROOHDJXHV
VXSSRUW IURP WKHLU SHHUVHGXFDWLRQ

1RWH &RXUVH PD\ EH UHSHDWHG

0$7+ 0DWKHPDWLFV

0$7+ $GYDQFHG 3HUVSHFWLYHV
RQ 6FKRRO 0DWKHPDWLFV
3UHUHTXLVLWH $GPLVVLRQ WR JUDGXDWH
7KLV FRXUVH LV IRU SURVSHFWLYH
LFV WHDFKHUV ZKR KDYH D VWURQJ
DWH WUDLQLQJ LQ PDWKHPDWLFV
GHVLJQHG VR WKDW VWXGHQWV
LQ VFKRRO PDWKHPDWLFV EH
WKH VNLOOV DQG XQGHUVWDQGLQJ
FRXUVH ZRUN LQ PDWKHPDWLFV
PRUH GDYDQFHG LGHDV WR WKHLU
WHDFK LQ PLGGOH VFKRRO DQG KLJK
JRDO RI WKH FRXUVH LV WR
VWXGHQWV· XQGHUVWDQGLQJ
LGHDV LQYROYLQJ DOJHEUD
HWU\ QXPEHU WKHRU\ GLVFUHWH
SUREDELOLW\ DQG PDWKHPDWLFV
7KH HPSKDVLV LV RQ HQJDJLQJ
UHDVRQLQJ DQG SUREOHP VROYLQJ
FDWLRQ DERXW PDWKHPDWLFV
WLRQV DPRQJ GLIIHUHQW DUHDV
PDWKHPDWLFV DQG H[SORULQJ
UHSUHVHQWLQJ PDWKHPDWLFV

0$7+ (OHPHQWDU\ 6W 7KHRU\

3UHUHTXLVLWH $GPLVVLRQ WR
$ FRXUVH LQ WKH WKHRU\ RI
WLRQ WR WKH GHYHORSPHQW
V\VWHP 3URRIV DSSOLFDWLRQV
EH LQFOXGHG

0$7+ 'LVFUHWH 0DWKHPDWLFV

3UHUHTXLVLWH $GPLVVLRQ WR
HGXFDWLRQ
7KLV LV DQ DSSOLFDWLRQ RULHQWHG FRXUVH WKDW
LQWURGXFHV D YDULHW\ RI GLVFUHWH PDWKHPDWL

0$7+ *HRPHWU\ IURP 0XOWLVRLH
3HUVSHFWLYHV
3UHUHTXLVLWH $GPLVVLRQ WR JUDG
HGXFDWLRQ
3UREOHP
PDWKHPDW
RQ (XFOLGHD
PDWLRQDO JHR
SUDUD
RUWLRQ
SURSRVRUWLRQ
DQG D[L
DWLRQ DQG
FRXUVH WHVW DQ
DSSURDFK HQF
SUREOHP WHVW DQ
WKH\ ZLOO
1XPEHU
1XPEHU WKHRU\ DQG
DSSOLFDWLRQV WR JUDG
3UREOHP
HGXFDWLRQ
SURSRVRUWLRQ
DQG
SURSHUWLHV RI EDVLF SUL
QXPEHU WK
)HUPDW·V
(XOHU·V
DSSOLFDWLRQV LQ FU\SWRORJ\

0$7+)XQFWLRQV DQG $QDO\WLF

3UHUHTXLVLWH $GPLVVLRQ WR JUDG
3UREOHP
([WHQGV NQRZOHGJH RI EDVLF DOJ
SURFHVV WKURXJK DSSOLFDWLRQV
HGXFDWLRQ
7KLV FRXUVH WKDW
LQWURGXFHV D YDULHW\ RI GLVFUHWH PDWKHPDWL

0$7+ 6SHFLDO 7RSLFV 5H
SHDWDEOH 5HJXODU *UDGHV
3UHUHTXLVLWH $GPLVVLRQ WR WKH JUDGXDWH FROOHJH
DQG SHUPLVVLRQ RI DGYLVRU LQVWUXFWRU GHSDUW
PHQW FKDLU DQG GLUHFWRU JUDGXDWH VWXG\ LQ
HGXFDWLRQ
([SORUDWLRQ RI D VSHFLÀFDOO\ GHVLJQHG WRSLF

0$7+ 'LUHFWHG 6WXG\ 5H
SHDWDEOH 5HJXODU *UDGHV
3UHUHTXLVLWH $GPLVVLRQ WR WKH JUDGXDWH FROOHJH
DQG SHUPLVVLRQ RI DGYLVRU LQVWUXFWRU GHSDUW
PHQW FKDLU DQG GLUHFWRU JUDGXDWH VWXG\ LQ
HGXFDWLRQ
$ FRQFHQWUDWHG LQYHVWLJDWLRQ RI VHOHFWHG WRSLFV
RI DQ DGYDQFHG QDWXUH

1RWH 7KH FRQWHQW ZLOO EH GHWHUPLQHG MRLQWO\ E\ WKH
LQVWUXFWRU DQG VWXGHQW

0*7 0DQDJHPHQW

0*7 0DQDJLQJ WKH 9DOXH &KDLQ

3UHUHTXLVLWH $GPLVVLRQ WR WKH &ROOHJH 0%$ RU
0$FF SURJUDP
7KH REMHFWLYH RI WKLV FRXUVH LV WR OHDUQ KRZ WR
PD[LPL]H WKH RYHUDOO YDOXH WR WKH FXVWRPHU
IRU WKH OHDVW FRVW SRVVLEOH 7KH YDOXH LV WKH
GLIIHUHQFH EHWZHHQ ZKDW WKH ÀQDO SURGXFW RU
VHUYLFH LV ZRUWK WR WKH FXVWRPHU DQG WKH HI
IRUW WKH V\VWHP H[SHQGV LQ ÀOOLQJ WKH FXVWRP
HU·V UHTXHVW 6XFFHVVIXO YDOXH FKDLQ PDQDJH
PHQW UHTXLUHV VHYHUDO GHFLVLRQV UHODWLQJ WR WKH
ÁRZ RI LQIRUPDWLRQ DQG SURGXFWV RU VHUYLFHV
'HFLVLRQV IDOO LQWR WKHVH WKUHH FDWHJRULHV
YDOXH FKDLQ VWUDWHJ\ YDOXH FKDLQ SODQQLQJ
DQG YDOXH FKDLQ RSHUDWLRQV 7KH WRSLFV LQ
FOXGH FRPSHWLWLYH VFRSH DQG WKH YDOXH FKDLQ
WKH YDOXH FKDLQ DQG RUJDQL]DWLRQDO VWUXFWXUH
SURGXFW SURFHVV GHVLJQ FDSDFLW\ LQYHQWRU\
PDQDJHPHQW ORFDWLRQ GLVWULEXWLRQ PDQDJH
PHQW TXDOLW\ IRUHFDVWLQJ VKRS FRQWURO FRVW
HYDOXDWLRQ DQG WKHLU LQWHUUHODWLRQVKLSV \9 @DWLR E• °
SURGXFW SPURGXF@RQ P• °Pì @ @ YPP@D 9„ SU

0*7 0DQDJLQJ 3URMHFW $FWLYL
WLHV 7HDPV DQG 5HVRXUFHV
3UHUHTXLVLWH $GPLVVLRQ WR &RLHV 0%$ RU 0DFF
7KLV FRXUVH DGGUHVVHV FRQFHSWV DQG WHFK

&RXUVHV

LQWURGXFHG WKDW FRQVLGHUV KRZ VFKRODUV IURP GLIIHUHQW ÀHOGV XVH WRSLFV VXFK DV LQGLYLGXDO GLIIHUHQFHV MXGJPHQW GHFLVLRQ PDNLQJ PR WLYDWLRQ DQG LQFHQWLYHV LQ WKHLU UHVHDUFK RQ LQGLYLGXDO DQG JURXS RU FRPPLWWHH EHKDYLRU $ SRUWLRQ RI WKH FRXUVH LV GHYRWHG WR VSHFLÀF UHVHDUFK SKHQRPHQD ZLWKLQ HDFK VWXGHQW·V ÀHOG RI VWXG\ (DFK WRSLF LV LQWURGXFHG WKURXJK D UHYLHZ RI VHPLQDO WKHRULHV DQG LV UHLQIRUFHG ZLWK FXUUHQW UHVHDUFK WKDW DSSOLHV RU WHVWV WKRVH WKHRULHV

0*7 &RQFHQWUDWLRQ 'RFWRUDO
'LUHFWHG 6WXG\
3UHUHTXLVLWH $GPLVVLRQ LQWR &ROHV '%$ 3UR JUDP FRPSOHWLRQ RI WZR RI WKH IRXU FRXUVHV LQ WKH VHTXHQFH RI 0*7 0*7 0*7 DQG RU 0*7 DQG SHUPLVVLRQ RI WKH DGYLVRU
,QGLYLGXDOL]HG DQG LQGHSHQGHQW VFKRODUO\ LQYHVWLJDWLRQ DQG UHVHDUFK RI DQ LPSRUWJDÕP p0 P@ GHQ KH IHU@[RðU O\
WDW 6WXGHQ [RðWP KH D UHVHDUFJ0QWUL]`HQP 00 p U

&RXUVHV

WLYH DQG VHFRQGDU\ GDWD FROOHFWLRQ PHWKRGV PHWKRGV RI GDWD DQDO\VLV LQFOXGLQJ UHJUHV VLRQ EDVHG VWDWLVWLFV LQFOXGLQJ KLHUDUFKLFDO UHJUHVVLRQ 129 DQG VWUXFWXUDO HTXDWLRQ PRGHOLQJ 7KH\ DOVR LQFOXGH ZULWLQJ WRSLFV VXFK DV ZULWLQJ DQ LQWURGXFWLRQ ZULWLQJ D OLW HUDWXUH UHYLHZ KRZ WR ZULWH XS WKH PHWKRGV DQG ÀQGLQJV VHFWLRQV ZULWLQJ XS D FRQFOX VLRQ DQG LPSOLFDWLRQV VHFWLRQ DQG ZULWLQJ D SUDFWLWLRQHU SDSHU ,Q SULRU FRQVXOWDWLRQ ZLWK WKHLU PDMRU SURIHVVRU VWXGHQWV FKRRVH DPRQJ WKH RIIHUHG WRSLFV DV ZHOO DV VFKHGXOH D WLPH WR GHIHQG WKHLU SURSRVDO

0*7 'LVVHUWDWLRQ 5HVHDUFK

3UHUHTXLVLWH $GPLVVLRQ LQWR &ROH '%$ 3UR JUDP FRPSOHWLRQ RI KRXUV RI JUDGXDWH OHYHO UHVHDUFK FRXUVHV DQG SHUPLVVLRQ RI DGYLVRU FRPSOÀpDV0@ p

HVHDu`0 P°€

3UX WKH<ìOHWLLVVLRQ 0 `@ð V

UHVHF RPS RIœÑ0€@P`P0`p0@E À p0•0P0°ÀÀ 0UHVHF&RPS&R Pð

3U•HUHTXLVLWH $GPLVVLRQ ãL'R±6

WXQLW\ LGHQWLÀFDWLRQ DQG $SSOLFDWLRQV RI WKH &RXUVH LV GHVL
GHFLVLRQ PDNLQJ DQG FRQWURO WHFKQLTXHV SKHQRPHQD ZLWKLQ HDF
ÀHOG RI VWXG\ (DFK WRSLF LV LQV
0.7* 6DOHV 0DQDJHPHQW WKURXJK D UHYLHZ RI VHPLQDO WK
VLRQV UHLQIRUFHG ZLWK FXUUHQW UHVHD
3UHUHTXLVLWH 0.7* RU HTXLYDOHQW RI WHVW WKRVH WKHRULHV
$GYDQFHG VWXG\ RI FRQFHSWXDO DQG PHWK
RGRORJLFDO WRROV XVHG WR &RQGXFW &HFLVLRQ 'RFWRUDO
UHTXLUHG IRU WKH PDQDJHPHQW RI YDOXH SHUVRQ
QHO DQG WKH SODQQLQJ DQG LPSOHPHQWDWLRQ LQWR &R
RSHUDWLRQV FRPSOHWLRQ RI WZR RI WKH WKUHH F
VHTXHQFH RI 0.7* 0À`0À`0 0€2SL

0.7* %XVLQHVV WR %XVLQHVV
0DUNHWLQJ
3UHUHTXLVLWH 0.7* RU HTXLYDOHQW
$Q H[DPLQDWLRQ RI WKH DUHDV RI VWUDWHJLF DQG
WDFWLFDO SODQQLQJ DQG LPSOHPHQWDWLRQ ZKHQ
GHDOLQJ ZLWK SURGXFWV VROG WR RWKHU EXVLQHVV
ÀUPV

0.7* $SSOLHG *OREDO %XVLQHVV
6WUDWHJLHV
3UHUHTXLVLWH $GPLVVLRQ WR WKH &ROOV 0%$ RU
0$FF SURJUDP RU SHUPLVVLRQ RI LQVWUXFWRU
7KLV FRXUVH IRFXVHV RQ DQ DSSOLHG PXOWL
GLVFLSOLQDU\ DSSURDFK WR XQGHUVWDQGLQJ
DQG LPSOHPHQWLQJ JOREDO EXVLQHVV VWUDWHJ\
,W H[DPLQHV WKH SKDVHV RI JOREDO VWUDWHJ\
HYROXWLRQ HPSKDVL]LQJ WKH NH\ VWUDWHJLF
WKUXVWV DV ZHOO DV KRZ WR OHYHUDJH WKH ÀUP·V
SRVLWLRQ DQG FRPSHWHQFLHV WR WDNH DGYDQWDJH
RI SRWHQWLDO V\QHUJLHV $ VSHFLDO OHDUQLQJ RS
SRUWXQLW\ LV SURYLGHG E\ D UHTXLUHG RYHUVHDV
EXVLQHVV VWXG\ WRXU 6WXGHQWV ZLOO EH H[SRVHG
WR IRUHLJQ FXOWXUH DQG SHUVSHFWLYHV RQ JOREDO
VWUDWHJ\ IRUPXODWLRQ DQG LPSOHPHQWDWLRQ

0.7* 6SHFLDO 7RSLFV LQ 0DUNHW
LQJ 5HSHDWDEOH
3UHUHTXLVLWH $GPLVVLRQ WR &ROOV 0%$ RU 0$FF
SHUPLVVLRQ RI LQVWUXFWRU DQG DSSURYDO RI SUR
JUDP GLUHFWRU
6HOHFWHG FRQWHPSRUDU\ WRSLFV LQ PDUNHWLQJ
DQG SURIHVVLRQDO VDOHV RI LQWHUHVW WR IDFXOW\
DQG VWXGHQWV

0.7* 6HPLQDU LQ %HKDYLRUDO
5HVHDUFK
3UHUHTXLVLWH $GPLVVLRQ LQWR &ROOV '%$ 3UR
JUDP DQG FRPSOHWLRQ RI '%$ DQG '%$

7KLV FRXUVH UHYLHZV DSSOLHG EHKDYLRUDO
UHVHDUFK IURP WKH ÀHOGV RI DFFRXQWLQJ PDU
NHWLQJ DQG PDQDJHPHQW 5HVHDUFK ZLOO EH
LQWURGXFHG WKDW FRQVLGHUV KRZ VFKRODUV IURP
GLIIHUHQW ÀHOGV XVH WRSLFV VXFK DV LQGLYLGXDO
GLIIHUHQFHV MXGJPHQW GHFLVLRQ PDNLQJ PR
WLYDWLRQ DQG LQFHQWLYHV LQ WKHLU UHVHDUFK RQ
LQGLYLGXDO DQG JURXS RU FRPPLWWHH EHKDYLRU

(DFK WRSLF LV LQWURGXFHG WKURXJK UHVHDUFK SD
SHU WUHDWPHQWV RI VHPLQDO WKHRULHV 7KH WKHR

&RXUVHV

08$3 3HUIRUPDQFH 3UHUHTXLVLWH $GPLVVLRQ WR JUDGXDWH VWXG\ LQ HGXFDWLRQ

,QVWUXPHQW WHFKQLTXHV DUH D UHTXLUHPHQW IRU DOO FHUWLÀFDWLRQ SURJUDPV LQ PXVLF HGXFDWLRQ 7KH\ DUH WDNHQ E\ DGYLVHPHQW DFFRUGLQJ WR WKH ,QVWUXPHQW 7HFKQLTXHV 5HTXLUHPHQW 'LV SOD\ 7KLV GLVSOD\ SURYLGHV LQIRUPDWLRQ RQ WKH PXVLF HGXFDWLRQ FRPSHWHQFLHV LQ HDFK RI WKH PXVLF HGXFDWLRQ VSHFLDOL]DWLRQV

08$3 3HUIRUPDQFH 3UHUHTXLVLWH $GPLVVLRQ WR JUDGXDWH VWXG\ LQ HGXFDWLRQ

,QVWUXPHQW WHFKQLTXHV DUH D UHTXLUHPHQW IRU DOO FHUWLÀFDWLRQ SURJUDPV LQ PXVLF HGXFDWLRQ 7KH\ DUH WDNHQ E\ DGYLVHPHQW DFFRUGLQJ WR WKH ,QVWUXPHQW 7HFKQLTXHV 5HTXLUHPHQW 'LV SOD\ 7KLV GLVSOD\ SURYLGHV IRU WKH QHFHVVDU\ FRPSHWHQFLHV LQ HDFK RI WKH PXVLF HGXFDWLRQ VSHFLDOL]DWLRQV

08$3 3HUIRUPDQFH 3UHUHTXLVLWH $GPLVVLRQ WR JUDGXDWH VWXG\ LQ HGXFDWLRQ

,QVWUXPHQW WHFKQLTXHV DUH D UHTXLUHPHQW IRU DOO FHUWLÀFDWLRQ SURJUDPV LQ PXVLF HGXFDWLRQ 7KH\ DUH WDNHQ E\ DGYLVHPHQW DFFRUGLQJ WR WKH ,QVWUXPHQW 7HFKQLTXHV 5HTXLUHPHQW 'LV SOD\ 7KLV GLVSOD\ SURYLGHV IRU WKH QHFHVVDU\ FRPSHWHQFLHV LQ HDFK RI WKH PXVLF HGXFDWLRQ VSHFLDOL]DWLRQV

08$3 3HUIRUPDQFH 3UHUHTXLVLWH $GPLVVLRQ WR JUDGXDWH VWXG\ LQ HGXFDWLRQ

,QVWUXPHQW WHFKQLTXHV DUH D UHTXLUHPHQW IRU DOO FHUWLÀFDWLRQ SURJUDPV LQ PXVLF HGXFDWLRQ 7KH\ DUH WDNHQ E\ DGYLVHPHQW DFFRUGLQJ WR WKH ,QVWUXPHQW 7HFKQLTXHV 5HTXLUHPHQW 'LV SOD\ 7KLV GLVSOD\ SURYLGHV IRU WKH QHFHVVDU\ FRPSHWHQFLHV LQ HDFK RI WKH PXVLF HGXFDWLRQ VSHFLDOL]DWLRQV

08$3 3HUIRUPDQFH 3UHUHTXLVLWH $GPLVVLRQ WR JUDGXDWH VWXG\ LQ HGXFDWLRQ

,QVWUXPHQW WHFKQLTXHV DUH D UHTXLUHPHQW IRU DOO FHUWLÀFDWLRQ SURJUDPV LQ PXVLF HGXFDWLRQ 7KH\ DUH WDNHQ E\ DGYLVHPHQW DFFRUGLQJ WR WKH ,QVWUXPHQW 7HFKQLTXHV 5HTXLUHPHQW 'LV SOD\ 7KLV GLVSOD\ SURYLGHV IRU WKH QHFHVVDU\ FRPSHWHQFLHV LQ HDFK RI WKH PXVLF HGXFDWLRQ VSHFLDOL]DWLRQV

08$3 3HUIRUPDQFH 3UHUHTXLVLWH $GPLVVLRQ WR JUDGXDWH VWXG\ LQ HGXFDWLRQ

,QVWUXPHQW WHFKQLTXHV DUH D UHTXLUHPHQW IRU DOO FHUWLÀFDWLRQ SURJUDPV LQ PXVLF HGXFDWLRQ 7KH\ DUH WDNHQ E\ DGYLVHPHQW DFFRUGLQJ WR WKH ,QVWUXPHQW 7HFKQLTXHV 5HTXLUHPHQW 'LV SOD\ 7KLV GLVSOD\ SURYLGHV IRU WKH QHFHVVDU\ FRPSHWHQFLHV LQ HDFK RI WKH PXVLF HGXFDWLRQ VSHFLDOL]DWLRQV

08(' 0XVLF (GXFDWL

08(' QVWUXPHQW 7HFKQLTXHV 3UHUHTXLVLWH $GPLVVLRQ WR JUDG HGXFDWLRQ DFFRUGLQJ WR WKH ,QVWUXPHQW 7HFKQLTXHV 5HTXLUHPHQW 'LV SOD\ 7KLV GLVSOD\ SURYLGHV IRU WKH QHFHVVDU\ FRPSHWHQFLHV LQ HDFK RI WKH PXVLF HGXFDWLRQ VSHFLDOL]DWLRQV

1RWH 08(' WKURXJK

086, 0XVLF

086, PXVLF 6SHFLDO 7RSLFV LQ 0XVLF

3UHUHTXLVLWH $GPLVVLRQ WR JUDG HGXFDWLRQ DQG SHUPLVVLRQ RI GHSDUWPHQW FKDLU LQ HGXFDWLRQ

&RYHUV VSHFLDO WRSLFV DQG VHP

1856 1XUVLQJ

1856 3URIHVVLRQDO $GYDQFHG 5ROH 'HYHORSPHQW DQG +HDOWK &DU VXVH

3UHUHTXLVLWH $GPLVVLRQ WR 061 3

1856 +HDOWK &DUH 7KHRU\
3UHUHTXLVLWH $GPLVVLRQ WR 061 3URJUDP RU

&RXUVHV

1856 +HDOWK 3ROLF\ DQG)LQDQFH

3UHUHTXLVLWH $GPLVVLRQ WR WKH 061 SURJUDP RU SHUPLVVLRQ RI WKH SURJUDP FRRUGLQDWRU
7KLV FRXUVH LV GHVLJQHG WR SURYLGH WKH SUDF WLFH QXUVLQJ VWXGHQW ZLWK DQ RYHUYLHZ RI WKH IDFWRUV LQYROYHG LQ XQGHUVWDQGLQJ WKH FXUUHQW VWDWH RI KHDOWK FDUH SROLF\ LQ WKH 8QLWHG 6WDWHV 9DULRXV PHWKRGV RI KHDOWK FDUH ÀQDQFLQJ RU JDQL]DWLRQ UROH RI JRYHUQPHQW LQ KHDOWK FDUH DQG DQ KLVWRULFDO SHUVSHFWLYH ZLOO EH H[SORUHG ,VVXHV VXFK DV DFFHVV WKH UROHV RI KHDOWK FDUH

1856 +HDOWK 3ROLF\
3UHUHTXLVLWH $GPLVVLRQ WR WKH '16 3URJUDP RU SHUPLVVLRQ RI WKH LQVWUXFWRU
7KLV FRXUVH SURYLGHV DQ RULHQWDWLRQ WR YDUL RXV DQDO\WLFDO DQG VXEVWDQWLYH FRPSRQHQWV IXQGDPHQWDO WR KHDOWK SROLF\ 6WXGHQWV GHYHORS VNLOOV LQ DQDO\VLV DSSOLFDWLRQ HYDOX DWLRQ DQG GHYHORSPHQW RI SROLFLHV UHODWHG WR SXEOLF KHDOWK ZLWK D IRFXV RQ LVVXHV UHODWHG WR LQHTXDOLWLHV LQ KHDOWK VHUYLFHV VXFK DV DFFHVV FRVWV XWLOL]DWLRQ DQG UDWLRQLQJ +HDOWK FDUH SROLFLHV DORQJ ZLWK PHWKRGV DQG GHOLYHU\ V\VWHPV DUH FRPSDUHG ZLWKLQ GHYHORSHG DQG GHYHORSLQJ FRXQWULHV 5HDO VLWXDWLRQV DUH H[DPLQHG LQ ZKLFK VSHFLÀF SROLF\ GHFLVLRQV DUH PDGH E\ SXEOLF DQG SULYDWH KHDOWK PDQDJHUV RU RIÀFLDOV

W\SHV RI PRGHUQ EXGJHWLQJ IURP OLQH LWHP SURJUDP DQG SHUIRUPDQFH WR]HUR EDVHG EXGJHWLQJ $WWHQWLRQ ZLOO EH SDLG WR ERWK WKH SROLWLFV RI WKH EXGJHWDU\ SURFHVV DQG WKH ÀQDQFLDO DQG DFFRXQWLQJ SULQFLSOHV LQYROYHG ZLWK D VWURQJ HPSKDVLV RQ KDQGV RQ H[HUFLVHV

3$' *RYHUQPHQWDO 5HODWLRQV

3UHUHTXLVLWH $GPLVVLRQ WR JUDGXDWH VWXG\ ([DPLQHV WKH LQWHUDFWLRQ EHWZHHQ WKH IHGHUDO VWDWH DQG ORFDO OHYHOV RI JRYHUQPHQW LQ WKH

IXQGV IURP LQVWLWXWLRQDO DV ZHOO DV LQGLYLGXDO FRQWULEXWRUV ,W ZLOO DOVR HPSKDVL]H VSHFLDO HWKLFDO GLPHQVLRQV RI QRQSURÀW JRYHUQDQFH DQG DGPLQLVWUDWLRQ

3$' /RFDO *RYHUQDQFH DQG &LW\ 0DQDJHPHQW
3UHUHTXLVLWH $GPLVVLRQ WR JUDGXDWH VWXG\
7KLV FRXUVH ZLOO FRYHU WKH FRPPRQ SUDFWLFHV DQG SUREOHPV RI ORFDO JRYHUQPHQW DGPLQLVWUDWORUV DQG FLW\ PDQDJHUV ZLWK VSHFLDO DWWHQWLRQ WR WKH FRPSOH[HQYLURQPHQW RI DQG LQWHUUHODWLRQV LQ WKH PHWURSROLWDQ DQG UHJLRQDO VHWWLQJ ,W ZLOO H[SORUH WKH UHODWLRQ VKLS EHWZHHQ SROLWLFV DQG DGPLQLVWUDWLRQ DQG EHWZHHQ FLW\ DQG FRXQW\ PDQDJHUV DQG WKHLU PXOWLSOH FRQVWLWXHQFLHV

&RXUVHV

3$' /HDGHUVKLS DQG (WKLFV LQ 3XEOLF 6HUYLFH
3UHUHTXLVLWH 3$'
7R LQFUHDVH WKH DELOLW\ RI LQGLYLGXDOV WR GHDO ZLWK SXEOLF DQG VRFLDO SUREOHPV LQ DOO DUHDV RI SXEOLF VHUYLFH WKLV FRXUVH FRQFHQWUDWHV RQ XQGHUVWDQGLQJ DQG GHYHORSLQJ OHDGHUVKLS UROHV DQG HWKLFDO SUDFWLFHV (PSKDVLV ZLOO EH RQ HWKLFDO OHDGHUVKLS LQ WKH FRQWH[W RI WHDPZRUN SDUWLFLSDWRU\ GHFLVLRQ PDNLQJ DQG HPSOR\HH

3UHYÜÂø...D#€f $' , /HDGHUZKLS DFH) H@-,H 0@ v€0 Q PDÍw3U

&RXUVHV

RI VLPSOH KDUPRQLF PRWLRQ
&RQQHFWLRQV ZLWK RWKHU
WR DSSOLFDWLRQV DUH PDGH
WR EURDGHQ GHHSHQ DQG
SK\VLFDO LQVLJKWV DQG XQ

3+<6 3K\VLFV RI WKH 0LFURZRUOG
DQG WKH &RVPRV
3UHUHTXLVLWH $GMLVVLRQ WR 0$7+
RU EHWWHU JUDGH LQ 0$7+
RU HTXLYDOHQW
7KLV FRXUVH IRFXVHV RQ WR
SK\VLFV 6WXGHQWV DUH H[SR
LGHDV RI WK DQG VW FHQWX
UHODWLYLW\ LV FRYHUHG LQ
EURDG LGHDV RI JHQHUDO UHO
7KH IUDPHZRUN RI TXDQWXP
SUHVHQWHG DQG DSSOLFDWLRQ
WKH DWRP DQG QXFOHXV LV
DGYDQFHV LQ SDUWLFOH SK\V
LV GHVFULEHG &RQQHFWLRQV
RI SK\VLFV DQG WR DSSOLFDW
WHFKQRORJ\ DUH PDGH ZKHQ
EURDGHQ GHHSHQ DQG VWUHQ
SK\VLFDO LQVLJKWV DQG XQ

3+<6 (OHFWURQLFV
3UHUHTXLVLWH & RU EHWWHU
3+<6
7KH SULPDU\ REMHFWLYH RI
SUHVHQW WKH IXQGDPHQWDO
DQG GLJLWDO HOHFWURQLF
SOLFDWLRQ WR PRGHUQ WHFK
EHJLQV ZLWK EDVLF '& DQG
UHVLVWRUV LQGXFWRUV DQG
S Q MXQFWLRQ LV GLVFXVVHG
DQG WUDQVLVWRUV ZLWK D
DSSOLFDWLRQV IRU VLJQDO
ÀQLVKHV ZLWK WKH GHYHORS
DQG ÁS ÁRSV DQG WKHLU
LFV 7KLV FRXUVH VHUYHV
GHUVWDQGLQJ RI EDVLF
DV ZHOO DV HYEU\GD\ HOHF

1RWH 7KH ODE LQYROYHV
DQDORJ DQG GLJLWDO

3+<6 (OHFWULFLW\ 0DJQHWLVP
ZLWK $SSOLFDWLRQV
3UHUHTXLVLWH $GMLVVLRQ WR 0$7
& RU EHWWHU LQ 0$7+
RU HTXLYDOHQW
7KH SULPDU\ REMHFWLYH RI
SUHVHQW WKH H[SHULPHQWDO
EDVLV RI WKH SULQFLSOHV
QHWLVP DQG WKHLU DSSOLFDW
SKHQRPHQD DQG GHYLFHV
ZLWK WKH FRQFHSW RI DQ

HDYHG RI HOHFWULF
&RQFHSWV DQG WHFKQLFDO
WXGHQWV DUH H[SHFWHG WR
FXVVHG WKURXJK WKH 7KHRU
LQ WKH HOHFWURQLF ZDYHV
RYLHG WR WKH PDLQ
WXGHQWV DUH H[SHFWHG WR
FXVVHG WKURXJK WKH 7KHRU
5HODWLYLW\ DQG FXOPLQDWHV LQ
SLFV LQ QRQ FODVVLFDO
RI WKH HOHFWURPDJQHWLF ZDYHV
WXGHQWV DUH H[SHFWHG WR XQGHUVW
FWURSK\VLFV GHYHORSPHQWV RI W
WURPDJQHWLF SKHQRPHQRQ LV IXU
LQ WKH QDWXUDO ZRUOG LQ ERWK
DVWURSK\VLFDO FRQWH[WV 0DWKH
RI WHFKQRORJLFDO FXOW H J FXUO
PSOH GLIIHUHQWLDO HTXDWLRQV
LQ SDUWLFOH ZLWK WKH FXUVH F
FRQFHSWV XVHG DQG GHYHORSHG L
ZDYHV HQHUJ\ FRQVHUYDWLRQ VS
LW\ YHFWRU FDOF XOXV DOO RYHUC
FRXUVH LQ WKH VHTXHQFH DQG VL
UHLQIRUFH VWXGHQW OHDUQLQJ

1RWH 7KH ODE LQYROYHV KDQGV R
DQDORJ DQG GLJLWDO HOHFWURQL

DF

DF

R` l•…`PF6

32/6 6SHFLDO 7RSLFV
5HSHDWDEOH
3UHUHTXLVLWH $GPLVVLRQ WR JUDGXDWH VWXG\ LQ HGXFDWLRQ DQG SHUPLVVLRQ RI DGYLVRU LQVWUXFWRU GHSDUWPHQW FKDLU DQG GLUHFWRU JUDGXDWH VWXG\ LQ HGXFDWLRQ
([SORUDWLRQ RI D VSHFLÀFDOO\ GHVLJQHG WRSLF

32/6 'LUHFWHG 6WXG\
5HSHDWDEOH
3UHUHTXLVLWH $GPLVVLRQ WR JUDGXDWH VWXG\ LQ HGXFDWLRQ DQG SHUPLVVLRQ RI DGYLVRU LQVWUXFWRU GHSDUWPHQW FKDLU DQG GLUHFWRU JUDGXDWH VWXG\ LQ HGXFDWLRQ

VWXGHQWV DERXW FDUHHUV DYDLODEOH WR RUJDQL]D WLRQDO ZULWHUV DQG WKH WHFKQRORJLHV WKH\ XVH LQ SHUIRUPLQJ WKHLU ZRUN

35:5 %XVLQHVV DQG 7HFKQLFDO (GLWLQJ
3UHUHTXLVLWH $GPLVVLRQ WR 0$3: SURJUDP RU SHUPLVVLRQ RI JUDGXDWH GLUHFWRU
7KH VWXG\ DQG SUDFWLFH RI EXVLQHVV DQG WHFK QLFDO HGLWLQJ LQ WH[WV IRXQG LQ FRUSRUDWH HQJL QHHULQJ JRYHUQPHQW KLJK WHFK DQG VFLHQWLÀF VHWWLQJV LQFOXGLQJ UHSRUWV SURSRVDOV PDQX DOV FRPSDQ\ QHZVOHWWHUV DQG ,QWHUQHW ZHE SDJHV (GLWRULDO UHVSRQVLELOLWLHV IRU GRFXPHQW GHYHORSPHQW FRS\ HGLWLQJ DQG SURRIUHDGLQJ ZLOO EH H[SORUHG

1RWH 3UDFWLFH RI HOHFWURQLF HGLWLQJ DQG KDUG FRS\ HGLWLQJ ZLOO EH VWUHVVHG

3UHUHTXLVLWH $GPLVVLRQ WR WKH 0$3: SURJUDP RU SHUPLVVLRQ RI JUDGXDWH GLUHFWRU
7KH VWXG\ RI WKH FRQFHSW RI ZULWLQJ DV SURFHVV DQG LWV LPSOLFDWLRQV IRU WKH JUDGXDWH SURJUDP GLUHFWRU

35:5 6FUHHQ DQG 7HOHYLVLRQ
:ULWLQJ
3UHUHTXLVLWH $GPLVVLRQ WR WKH 0$3: SURJUDP
RU SHUPLVVLRQ RI WKH JUDGXDWH SURJUDP GLUHFWRU
7KRVH RXWVLGH RI WKH FUHDWLYH ZULWLQJ WUDFN PXVW
KDYH WDNHQ 35:5
:RUNVKRS FRXUVH LQ ZULWLQJ 35:5 RU FLQHPDWLQJ WR
DQG WHOHYLVLRQ 6WXG\ DQG SUDFWLFH LQ HIIHFWLYH
VFUHHQSOD\ ZULWLQJ WHFKQLTXHV DQG 3UHPLVH $GDSWDWLRQ WR WKH
ZULWLQJ RQ VFUHHQ QHZV ZRUWKLQHVV DQG WKH JUDGXDWH SU
SULQFLSOHV RI VFULSW ZULWLQJ 7KH VWXGLR DWPRVSKHUH DQG
SURPRWLRQ ZLOO EH H[DPLQHG

35:5 7HDFKLQJ :ULWLQJ LQ +LJK
6FKRROV DQG &ROOHJHV
3UHUHTXLVLWH $GPLVVLRQ WR WKH 0$3: SURJUDP
RU SHUPLVVLRQ RI WKH JUDGXDWH SURJUDP GLUHFWRU
$Q LQYHVWLJDWLRQ LQWR WKH HIIHFWLYHQHVV RI
HV WKDW KDYH VKDSHG ZULWLQJ DQG SUDFWLFHV
WKH SDVW WKLUW\ \HDUV 6WXGHQWV VWXG\ KRZ
VWXGHQW FRQWHUHG LQVWUXFWLRQ \RXU WKHRULHV
WKHRULHV FXUUHQW PHWKRGRORJLHV DQG WHFKQRORJLHV
QRORJLHV ZULWLQJ DQG PHWKRGV RI WHDFKLQJ
YDQFHV LQ RUGHU WR SURGXFH FRPSHWHQW
IRU KLJK VFKRRO DQG FROOHJH

35:5 &UHDWLYH 1RQÀFWLRQ
3UHUHTXLVLWH $GPLVVLRQ WR WKH 0$3: SURJUDP
RU SHUPLVVLRQ RI WKH JUDGXDWH SURJUDP GLUHFWRU
7KRVH RXWVLGH RI WKH FUHDWLYH ZULWLQJ WUDFN PXVW
KDYH WDNHQ 35:5
5HDGLQJV IURP DQG ZULWLQJ DERXW FRQWHPSRUDU\
DU\ QRQÀFWLRQ LQFOXGLQJ WKH SHUVRQDO HVVD\
ELRJUDSK\ WUDYHO ZULWLQJ 7KH KLVWRULFDO
DQG WKH QRQÀFWLRQDO QRYHO 3HUVRQDO H[SHULHQFH
KLVWRU\ DQG GHYHORSPHQWDO SV\FKRORJ\ DV
VXEGLYLVLRQV DQG WR WKH PHDQLQJ RI
LWV PDQXVFULSWV

35:5 'RFXPHQW 'HVLJQ DQG
'HVNWRS 3XEOLVKLQJ
3UHUHTXLVLWH $GPLVVLRQ WR WKH 0$3: SURJUDP
RU SHUPLVVLRQ RI WKH JUDGXDWH SURJUDP GLUHFWRU
3ULQFLSOHV DQG SUDFWLFH LQ FRPSXWHU
SXEOLVKLQJ ([DPLQH ZRUG SURFHVVLQJ DQG
GHVNWRS SXEOLVKLQJ FDSDELOLWLHV GHYHORS
JUDSKLF DQG WH[W GHVLJQ H[SHULHQFH H[SORUH
WKH VNLOOV QHHGHG WR SURGXFH SURIHVVLRQDO
TXDOLW\ QHZVOHWWHUV EURFKXUHV UHSRUWV SDP
SKOHWV DQG ERRNV

35:5 ,QWURGXFWLRQ WR /LWHUDU\
6WXGLHV
3UHUHTXLVLWH $GPLVVLRQ WR WKH 0$3: SURJUDP
RU SHUPLVVLRQ RI WKH JUDGXDWH SURJUDP GLUHFWRU
$Q RYHUYLHZ RI DSSURDFKHV IRU VWXG\LQJ DQG
VKDSLQJ OLWHUDU\ LQ D UDQJH RI VRFLDO FRQWH[WV
LQFOXGLQJ ZRUNSODFHV LQVWUXFWLRQDO VHWWLQJV
DQG WKH OLWHUDU\ PDUNHWSODFH 7KLV FRXUVH ZLOO

WKH DUHD RI SHUVRQDO DQG FDUHHU GHYHORSPHQW
6WXGHQWV ZLOO FUHDWH WKHLU RZQ SURIHVVLRQDO

&RXUVHV

SUHYLRXV HPSOR\PHQW H[SHULHQFHV SURYLGH LQVLJKWV LQWR WKH FDUHHUV RI WKRVH ZKR ZULWH IRU RUJDQL]DWLRQV

35:5 0$3: 3UDFWLFDO ,QVLJKWV VKLS 8S WR VL[KRXUV PD\ VDWLVI\ 0$3: GHJUHH UHTXLUHPHQWV 3UHUHTXLVLWH $GPLVVLRQ WR RU SHUPLVVLRQ RI WKH JUDGXDWH SURJUDP DQG RU IDFXOW\ DGYLVRU

*XLGHG DQG VXSHUYLVHG SUDFWLFDO H[SHULHQFH LQ RQH FRQFHQWUDWLRQ RI WKH 0$3: SURJUDP

35:5 6HFLDO 7RSLFV 5HSHDWDEOH 3UHUHTXLVLWH $GPLVVLRQ WR WKH 0$3: SURJUDP RU SHUPLVVLRQ RI WKH JUDGXDWH SURJUDP GLUHFWRU ([SORUDWLRQ RI D VSHFLÀF GHVLJQHG WRSLF

35:5 0$3: 'LUHFWHG 6WXG\ 5HSHDWDEOH 2QH 3UHUHTXLVLWH $GPLVVLRQ WR WKH 0$3: SURJUDP RU SHUPLVVLRQ RI WKH JUDGXDWH SURJUDP GLUHFWRU 35:5 DQG D JUDGXDWH FRXUVH LQ WKH GLUHFWHG VWXG\ $Q LQWHQVLYH DGYDQFHG LQYHVWLJDWLRQ RI VHOHFWHG WRSLFV GHULYHG IURP LQGLYLGXDO FRXUVHV RI VWXG\ 7KH FRQWHQW ZLOO EH GHWHUPLQHG MRLQWO\ E\ WKH LQVWUXFWRU WKH VWXGHQW DQG WKH VWXGHQW·V DGYLVRU 7KH SURSRVHG FRXUVH RI VWXG\ PXVW EH VXEPLWWHG WR WKH JUDGXDWH GLUHFWRU E\ D GHDGOLQH SXEOLVKHG HDFK WHUP 0$3: &RPPLWWHH DSSURYDO

35:5 0$3: &DSVWRQH 3URMHFW

3UHUHTXLVLWH &RPSOHWLRQ RI FUHGLW KRXUV LQ WKH 0$3: SURJUDP DQG DW OHDVW WKUHH FRXUVHV LQ WKH FRQFHQWUDWLRQ DSSURYDO RI WKH 0$3: GHJUHH GLUHFWRU

\$ SURMHFW GHVLJQDWHG DV D WKHVLV SRUWIROLR RU SUDFWLFXP DQG DFFRPSDQLHG E\ D UHSRUW RU SUHVHQWDWLRQ VXUYH\V HOHFWURQ LF DQG RU SULQW PHGLD DQG GHVLJQ W\SRJUDSKLF DQG RU SULQW PHGLD DQG GHVLJQ

VWXGHQW·V FRQFHQWUDWLRQ DGYLVRU DQG RWKHU IDFXOW\ DV DSSURSULDWH

LQJ \$IWHU VXEPLWWLQJ DQ DSSURYHG SURSRVDO WKH FDQGLGDWH ZRUNV XQGHU WKH GLUHFWLRQ DQG GYLFH RI WKH IDFXOW\ FRPPLWWHH FKDLU RU D SXEOLF SUHVHQWDWLRQ DERXW WKH SURMHFW IRU DQ DXGLHQFH RI IDFXOW\ DQG SHHUV

1RWH 7KH FDQGLGDWH ZLOO FRQVXOW ZLWK WKH FDSVWRQH FRPPLWWHH FKDLU DQG FRPPLWWHH PHPEHU DERXW ZKLFK RSWLRQ WR FKRRVH

6\$ 6WXG\ \$EURDG

6\$ 6WXG\ \$EURDG YDULHG E\ FRXUVH

3UHUHTXLVLWH 9DULHV ZLWK GLVFLS 3HUPLVVLRQ VWXG\ DEURDG FR 3DUWLFLSDWH LQ D VWXG\ DEURDG ZRUN (DFK FRXU GHVLJQHG WR PDLQWDLQ À[HG H[SH PDQQHU DSSURSULDWH WR WKH FR DQG DFWLYLWLHV RU FURVV GL VSHFLÀF FRXU VLJQHG 6SHFLÀF FRXU GHVLJQDWHG DSSURYDO

6&(6FLHQFH (GXFD

6&(' 7HDFKLQJ RI 6FLHQF

3UHUHTXLVLWH (;6& / DQG 0$7 6FLHQFH SURJUDP DSSUR HOHPHQWDU\ RU QDQ DSSOL LQJ WKHRULHV FXUULFXOD LQ VHPHQW V GHVLJQ DQG DVVHVVPHQW RI VFLHQFH PDWHULDOV &RQGXF LQWHUYLHZV RU SURMHFWV LQ DQ HOHPHQWDU\ VFLHQFH FODVVURRP RU RWKHU HGXFDWLRQDO VHWWLQJ &RPSOHWLRQ RI WKH 6&(' 7HDFKLQJ RI 6FLHQFH VHTXHQFH

&RXUVHV

6&, 'LUHFWHG 6WXG\
5HSHDWDEOH
3UHUHTXLVLWH $GMVVLRQ WR WKH 0$7 SURJUDP
HGXFDWLRQ DQG SHUPLVVLRQ
GHSDUWPHQW FKDLU DQG GLUHFWRU
LQ HGXFDWLRQ
$ FRQFHQWUDWHG LQYHVWLJDWLRQ
RI DQ DGYDQFHG QDWXUH

1RWH 7KH FRQWHQW ZLOO EH GHWHUPLQHG E\ WKH
LQVWUXFWRU DQG WKH VWXGHQW

63$1 6SDQLVK

63$1 6RFLROLQJXLVWLFV
3UHUHTXLVLWH $GMVVLRQ WR WKH 0$7 SURJUDP LQ
)RUHLJQ /DQJXDJHV
7KLV FRXUVH H[SORUHV KRZ VRFLDO JHRJUDSKLF
FXOWXUDO DQG HFRQRPLF IDFWRUV FRQWULEXWH WR
ODQJXDJH YDULDWLRQ DFURVV WKH 6SDQLVK VSHDN
LQJ ZRUOG ,Q DGGLWLRQ WR GLVFXVVLQJ YDULDWLRQ
WKHRU\ VWXGHQWV JDLQ H[SHULHQFH LQ FRQGXFW
LQJ HPSLULFDO UHVHDUFK

1RWH 5HTXLUHV ZHHNO\ ÀHOG H[SHULHQFH &RXUVH
WDXJKW LQ 6SDQLVK

63$1 7RSLFV LQ 6SDQLVK /LQJXLV
WLFV
3UHUHTXLVLWH 63$1
$Q H[SORUDWLRQ RI ODQJXDJH UHODWHG LVVXHV
WKHRUHWLFDO DQG RU DSSOLHG WKDW LPSDFW WKH
WHDFKLQJ DQG OHDUQLQJ RI 6SDQLVK DV D VHFRQG
IRUHLJQ ODQJXDJH 6WXGHQWV JDLQ DQ XQGHU
VWDQGLQJ RI WKHVH LVVXHV WKURXJK UHDGLQJV
GLVFXVVLRQ DQG DFWLRQ UHVHDUFK

1RWH 5HTXLUHV ZHHNO\ ÀHOG H[SHULHQFH &RXUVH
WDXJKW LQ 6SDQLVK

63$1 +LVSDQLFV LQ WKH 8 6

3UHUHTXLVLWH $GMVVLRQ WR WKH 0$7 SURJUDP
)RUHLJQ /DQJXDJHV
$ PXOWLGLVFLSOLQDU\ VWXG\ RI WKH PLJUDWLRQ
KLVWRU\ DQG FXOWXUDO H[SHULHQFH RI WKH PDMRU
+LVSDQLF JURXSV LQ WKH 8QLWHG 6WDWHV LQFOXG
LQJ WKH SRUWUD\DO RI WKHVH JURXSV LQ FXUUHQW
HYHQWV

1RWH 5HTXLUHV ZHHNO\ ÀHOG H[SHULHQFH &RXUVH
WDXJKW LQ 6SDQLVK

63$1 7RSLFV LQ +LVSDQLF &XO
WXUH
3UHUHTXLVLWH 63$1
$ PXOWLGLVFLSOLQDU\ VWXG\ RI WKH PLJUDWLRQ
KLVWRU\ DQG FXOWXUDO H[SHULHQFH RI WKH PDMRU

+LVSDQLF JURXSV LQ WKH 8QLWHG 6WDWHV LQFOXG
LQJ WKH SRUWUD\DO RI WKHVH JURXSV LQ FXUUHQW
HYHQWV

1RWH 5HTXLUHV ZHHNO\ ÀHOG H[SHULHQFH &RXUVH
WDXJKW LQ 6SDQLVK

63$1 7RSLFV LQ +LVSDQLF &XO
WXUH
3UHUHTXLVLWH 63$1
$ PXOWLGLVFLSOLQDU\ VWXG\ RI WKH PLJUDWLRQ
KLVWRU\ DQG FXOWXUDO H[SHULHQFH RI WKH PDMRU

HQUROOHG LQ WKH 0DVWHU RI 6FLHQFH SURJUDP
ZKR QHHG WR UHIUHVK WKHLU NQRZOHGJH 7RSLFV
LQ FDOFXOXV LQFOXGH FRQWLQXRXV IXQFWLRQV
GHULYDWLYHV DSSOLFDWLRQV WR ÀQGLQJ PLQLPD
DQG PD[LPD RI IXQFWLRQV LQWHJUDOV HOHPHQWV
RI PXOWLYDULDWH FDOFXOXV SDUWLDO GHULYDWLYHV
VROYLQJ RSWLPL]DWLRQ SUREOHPV PXOWLSOH
LQWHJUDOV 7RSLFV LQ OLQHDU DOJHEUD LQFOXGH
PDWULFHV DQG RSHUDWLRQV ZLWK PDWULFHV WKH
LQYHUVH RI D PDWUL[YHFWRUV LQ 5 Q OLQHDUO\
LQGHSHQGHQW YHFWRUV LQ 5 Q OLQHDU WUDQVIRUPD
WLRQV RQ 5 Q HLJHQYDOXHV DQG HLJHQYHFWRUV

67$7 0DWKHPDWLFDO 6WDWLVWLFV ,

3UHUHTXLVLWH 67$7 DQG 67$7
)XQGDPHQWDO FRQFHSWV RI SUREDELOLW\ UDQGRP
YDULDEOHV DQG WKHLU GLVWULEXWLRQV UHYLHZ RI
VDPSOLQJ GLVWULEXWLRQV WKHRU\ DQG PHWKRGV
RI SRLQW HVWLPDWLRQ DQG K\SRWKHVLV WHVWLQJ
LQWHUYDO HVWLPDWLRQ QRQSDUDPHWULF WHVWV
LQWURGXFWLRQ WR OLQHDU PRGHOV

67$7 6WDWLVWLFDO &RPSXWLQJ DQG
6LPXODWLRQ
&RUHTXLVLWH 67$7
7RSLFV FRYHUHG LQ 67$7 ZLOO LQFOXGH VWR
FKDVWLF PRGHOLQJ UDQGRP QXPEHU JHQHUDWRUV
EDVHG RQ SUREDELOLW\ GLVWULEXWLRQV GLVFUHWH
HYHQW VLPXODWLRQ DSSURDFKHV VLPXODWHG GDWD
DQDO\VLV QRQSDUDPHWULF DQDO\VLV DQG VDP
SOLQJ WHFKQLTXHV *LYHQ WKH LPSRUWDQFH RI WKH
6$6 VRIWZDUH WR WKHVH W\SHV RI DSSOLFDWLRQV
VWXGHQWV ZLOO E\ GHÀQLWLRQ UHÀQH DQG LP
SURYH WKHLU 6$6 SURJUDPPLQJ VNLOOV 7KH FODVV
ZLOO XWLOL]H UHDO ZRUOG GDWDVHWV IURP D YDULHW\
RI GLVFLSOLQHV LQFOXGLQJ ÀQDQFH PDQXIDFWXU
LQJ DQG PHGLFLQH

1RWH 7KH FRXUVH ZLOO LQYROYH OHFWXUH QRWHV FDVH
VWXGLHV DQG VWXGHQW SURMHFWV

67$7 6WDWLVWLFDO 0HWKRGV
3UHUHTXLVLWH $GPLVVLRQ WR WKH 06$6 SURJUDP

6: 6RFLDO :RUN

6: 6RFLDO :RUN)RXQGDWLRQV
'LYHUVLW\ 6RFLDO -XVWLFH DQG (WKLFV

3UHUHTXLVLWH 1RQH
7KLV FRXUVH LV RUJDQL]HG DURXQG WKH IROORZLQJ DVVXPSWLRQV

0HPEHUVKLS LQ D SRSXODWLRQ DW ULVN
VXEVWDQWLDOO\ DIIHFWV WKH SHUVRQ V OLIH
H[SHULHQFHV ZRUOG YLHZ
0HPEHUVKLS LQ D SRSXODWLRQ DW ULVN
JURXS LQFUHDVHV ULVN IDFWRUV JHQHUDWH
VXUH WR GLVFULPLQDWLRQ DQG HFRQRPLF
VWUHVV
3URIHVVLRQDO VRFLDO ZRUN SUDFWLFH
UHTXLUHV D VROLG NQRZOHGJH RI HWKLFDO
VWDQGDUGV
&XOWXUDOO\ VHQVLWLYH SUDFWLFH LV HVVHQ
WLDO WR LQWHUYHQWLRQ DQG
3UDFWLWLRQHUV PXVW OHDUQ WR DSSO\ VRFLDO
MXVWLFH DSSURDFKHV WR LQÁXHQFH DVVHVV
PHQW SODQQLQJ DFFHVV WR UHVRXUFHV
LQWHUYHQWLRQ DQG UHVHDUFK
7KLV FRXUVH SURYLGHV D IUDPHZRUN RI YDOXHV
DQG HWKLFDO VWDQGDUGV WR HYDOXDWH SUDFWLFH
UHODWHG WR HWKLFDO GLORPDV LQ D VVVWHDWLF
ZD\ 6XSSOHPHQWDU\ UHDGLQJV KDQGRXWV DQG
FDVHV SURYLGH VWXGHQWV ZLWK DQ RSSRUWXQLW\
WR H[SORUH GLYHUVLW\ DQG
LPSRUWDQFH RI FXOWXUDOO\ 6HQVLWLYH
6WXGHQWV ZLOO H[DPLQH KRZ SHUVRQDO DQG
SURIHVVLRQDO YDOXHV DIIHFW WKH USUDFWLFH DQG
ZLOO OHDUQ PRGHOV IRU HWKLFDO GHFLVLRQ
DQG LQWHUYHQWLRQ SODQQLQJ 6WXGHQWV
LVVXHV DQG FDVHV VWXGHQWV ZLOO DOVR
UHODWLYLW\ RI YDOXHV WKH
SURIHVVLRQV DQG WKH WKLQNLQJ RI
WKH ÀHOG

6: 6RFLDO :RUN 3UDFWLFH
3UHUHTXLVLWH 6:
7KLV FRXUVH SURYLGHV DQ LQWURGXFWLRQ WR GLUHFW
VRFLDO ZRUN SUDFWLFH ZLWK LQGLYLGXDOV
ZRUN ZLWK LQGLYLGXDO FOLHQWV DQG
ORJLFDO V\VWHPLF WKRURHWLFDO SHUVSHFWLYHV
SUREOHP VROYLQJ SURFHVV EDVHG LQWHUYHQWLRQ
GHÀQLWLRQ DVVHVVPHQW JDWKHULQJ DQG
YHQWLRQ WHUPLQDWLRQ DQG HYDOXDWLRQ
LV H[SORUHG 7KH WDVN FHQWHUHG DSSURDFK DQG
FULVLV LQWHUYHQWLRQV DUH LQFOXGHG DV H[DPSOHV
RI WKH SUREOHP VROYLQJ SURFHVV
ZRUN SUDFWLFH 7KH VWUHQJWKV SHUVSHFWLYH
HPSKDVL]HG LQ WKH FRQWHQW RQ DVVHVVPHQW
DQG SUREOHP VROYLQJ SURFHVVHV 0XWXDOLW\ LQ

UHODWLRQVKLS EXLOGLQJ FRPPXQ
ÀXFK DV HPSDWKLF DQG DFWLYH OL
SURJHVVLRQDO XVH RI VHOI DUH DO

6: 6RFLDO :HOIDUH 3ROLF\ DQG
6HUYLFHV ,
3UHUHTXLVLWH $GPLVVLRQ WR WKH
7KLV FRXUVH SURYLGHV WKH KLVWR
DQG FXUUHQW RYHUYLHZ RI VRFLDO
LQ WKH 8 6 DQG WKH UROH RI WKH
SURIHVVLRQ ,Q DGGLWLRQ WKH FR
PDMRU KXPDQ VHUYLFH SURJUDPV
LQFUHDVH WKH TXDOLW\ RI OLIH RI
LOLHV DQG FRPPXQLWLHV 7KH FRX
VWXGHQWV ZLWK WKH EDFNJURXQG
FXUUHQW VRFLDO ZHOIDUH SROLF\
WKH JRUPXODWLRQ RSHUDWLRQV D
YXOQHUDEOH SRSXODWLRQV 'LIIHU
SROLF\ DDQ\VLV DUH DOVR SUHVH
6: 6RFLDO :RUN 3UDFWLFH ,,
3UHUHTXLVLWH $GPLVVLRQ WR WKH
7KLV FRXUVH SURYLGHV SUDFWLFH FRXUVH LQ
WLRQ ZLWK LQGLYLGXDOV IDPLOLH
ZRUN ZLWK LQGLYLGXDO HPSKDVL]HV WKH RQ JR
6WXGHQWV GHYHORS SUDFWLFH PH
SDUWLFXODU DWWHQWLRQ WR FXO
XQGHUVWDQGLQJ WKH FRXUVH IRFXVHV
VRFLDO ZRUN ZLWK IDPLOLHV DQG
W LQFRUSRUDWHV FRQWHQW RQ FD
FDVH PDQDJHPHQW DQG SDUWLFL
LQ UHODWLRQ WR GLIIHUHQW SUDFWL
FRXUVH HPSKDVL]HV WKHVH VVPHQW
WKLV RQ ZLWK PDUHUV DERXW WKH V\VW
WKHLU UIVN SURWHFWLYH IDFWRU
WKH FRQWH[W RI WKH VXSSRUWV D
WKHLU HQYLURQPHQW

6: +XDQ %HDYLRU LQ D 6RFLD
(OYLURQPHQW
3UHUHTXLVLWH $GPLVVLRQ WR WKH
7KLV FRXUVH GHVLJQHG WR SURYLG
ZLWK D XQGHUVWDQGLQJ RI KXPD
LQ WKH FRQWH[W RI VRFLDO HQYLU
SURFHVVHV DQG WKHRULHV WKDW
GHÀQH DQG VKDSH KXPDQ EHKD
6HPLQDO UHVHDUFK DQG
ÀHOG RI HQYLURQPHQWDO
PDWHULDOV RI SURZWK IULVHV IURP E
DQG SUREOHP VROYLQJ SURFHVVHV 0XWXDOLW\ LQ
HPSKDVL]HG LQ WKH FRXUVH DUH FXU
DQG SUREOHP VROYLQJ SURFHVVHV 0XWXDOLW\ LQ

6: +XPDQ %HKDYLRU LQ D (QYLURQPHQW ,,
3UHUHTXLVLWH 6:
7KLV KXPDQ EHKDYLRU FRXUVH OHDUQLQJ EHJXQ LQ +%6(, IRFXVHG RQ QRUPDO GHYHORSPHQW IRFXVHV RQ SV\FKRVRFLDO GHYHORSPHQW DQG G\VIXQFWLRQ RI LQGLYLGXDOV DQG IDPLOLHV DUH YLHZHG ZLWKLQ D IUDPHZRUN WKDW LQWHJUDWHV ELRORJLFDO SV\FKRORJLFDO DQG VRFLDO IDFWRUV 7KH FRXUVH LV SUHVHQWHG IURP D GHYHORSPHQWDO SHUVSHFWLYH DQG VXUYH\V WKH HDUO\ DGXOWKRRG H[SHULHQFHV RI WKH EDVLF IRU LQWHUYHQWLRQ

6: ,QWURGXFWLRQ WR 6RFLDO 5HVHDUFK
3UHUHTXLVLWH $GPLVVLRQ WR 7KH REMHFWLYH RI WKLV FRXUVH LV WR SURYLGH VWXGHQWV ZLWK DQ RYHUYLHZ RI WKH VRFLDO UHVHDUFK SURFHVV DQG SUHSDUH WKHP IRU FRQGXFW RI VWXGLHV DGGUHVVLQJ UHOHYDQW WR GLVFLSOLQHV 7KH IRFXVH LV RQ WKH HDVH IRU LQWHUYHQWLRQ DQG GHYHORSPHQW RI VWXGHQWV¶ VNLOOV DQG SURJUHVV 7KH FRXUVH DOVR SURYLGHV D EDVLV IRU GHFLVLRQ PDNLQJ LQ VWXGHQWV¶ SURIHVVLRQDO SUDFWLFH DQG DSSUHFLDWLRQ RI WKH QHHG IRU FRQWLQXRXV SURIHVVLRQDO GHYHORSPHQW DQG VNLOOV XSGDWLQJ

6: 3UDFWLFH)RFXVHG 5HVHDUFK 0HWKRGV
3UHUHTXLVLWH 6: RU GPLVVLRQ WR GDYDQFHG VWDQGLQJ
7KLV FRXUVH SURYLGHV DGYDQFHG DQG VNLOOV LQ UHVHDUFK PHWKRGV ODU HPSKDVLV RQ SURFHVV DQG UHVHDUFK PHWKRGV

6:)RXQGDWLRQ ,QWHUQVKLS 3UDFWLFXP ,,
3UHUHTXLVLWH $GPLVVLRQ WR 06: SURJUDPP $ VXSHUYLVHG HGXFDWLRQDO REMHFWLYH VHFÀÀHG ODU HPSKDVLV RQ SURFHVV DQG UHVHDUFK PHWKRGV

1RWH)LHOG ,QVWUXFWLRQ PXP RI KRXUV

&RXUVHV

6RFLDO)RXQGDWLRQ ,QWHUQVKLS ,QV
JUDWLYH 6HPLQDU ,,
3UHUHTXLVLWH $GPLVVLRQ WR 06: SU
6HVVLRQV DUH GLVVHPLQDWLRQ REMHFWLYH H[SH
:KHUHLÀHG %6(X,FDWLRQDO REMHFWL
VSHFWV RI WKH UHTXL
ZHHNV RI WKH À
1ZRWH WKHDWH RSSRUWXQLWLHV , DQG ,
DUH YLHZHG ZLWKLQ D IUDPHZRUN WKDW LQWHJUDWHV
VL]HV WKH PXOWLSOH GHWHUPLQDQWV RI EHKDYLRU &RQWHQW LV VHOHFWHG DQG RUJDQL]HG
EDVHG RQ WKH YLHZ WKDW K6HDOWK %HKDYLRUV RI 3UDFWLFH , 'LYH
DQG VRFLDO GHYHORSPHQW DV\VWHPV 6RFLDO DQG (WKLFV
FDO SV\FKRORJLFDO VRFLDO 3UHUHTXLVLWH 1RWH
IDFWRUV 7KH FRXUVH LV SUHVHQW $V DQG GHYHORS %UL
VXSSLWLRQ WKDW NQRZOHGJH RI SV\FKRVRFLDO FRXUVH (WKLFV
FKRVRFLDO IXQFWLRQ DQG G\VIXQFWLRQ DQG (WKLFDO SURYLGHV FRQFHSWXDO
WKH EDVLV IRU HIIHFWLYH SUDFWLFH DQG LQWHUYHQWLRQ IRXQGDWLRQ NQRZOHGJH YDOXHV
VRFLDOWHG ZLWK WKH SURIHVVLRQ
DQG LQWHUYHQWLRQ VLWXDWLRQV DQG SULQFLSOHV DFF
FLDO :RUN &RGH RI (WKLFV ,W
7KH REMHFWLYH RI WKLV FRXUVH LV WR SURYLGH VWXGHQWV ZLWK DQ RYHUYLHZ RI WKH VRFLDO UHVHDUFK FRQFHSWV DQG SULQFLSOHV DQG UHVHDUFK PHWKRGV 7KH FRXUVH DOVR HPSKDVL]HV WKH LPSRUWDQFH RI HWKLFDO FRQVLGHUDWLRQV LQ VRFLDO UHVHDUFK DQG SURYLGHV VWXGHQWV ZLWK WKH NQRZOHGJH DQG VNLOOV QHFHVVDU\ WR GHVLJQ DQG FRQGXFW HWKLFDOO\ VRXQG UHVHDUFK VWXGLHV

6: %ULGJH WR 3UDFWLFH ,, 3V\
3UHUHTXLVLWH 6WXGHQW
7KLV FRXUVH LV GHVLJQHG WR SURYLGH VWXGHQWV ZLWK DQ RSSRUWXQLW\ WR DSSO\ WKH NQRZOHGJH DQG VNLOOV WKH\ KDYH OHDUQHG LQ WKH %6: SURJUDP LQ D VXSHUYLVHG HGXFDWLRQDO REMHFWLYH 7KLV FRXUVH IRFXVHV RQ G\VIXQFWLRQ +HDOWK DQG G\VIXQFWLRQ LQGLYLGXDOV DQG IDPLOLHV DUH YLHZHG ZLWKLQ D IUDPHZRUN WKDW HPSKDVL]HV WKH LPSRUWDQFH RI HWKLFDO FRQVLGHUDWLRQV LQ VRFLDO UHVHDUFK DQG SURYLGHV VWXGHQWV ZLWK WKH NQRZOHGJH DQG VNLOOV QHFHVVDU\ WR GHVLJQ DQG FRQGXFW HWKLFDOO\ VRXQG UHVHDUFK VWXGLHV DQG DSSO\ WKHP WR UHDO ZRUOG VLWXDWLRQV 7KH FRXUVH DOVR FRYHUV WKH UHOHYDQW SROLFLHV DQG UHJXODWLRQV WKDW JRYHUQ VRFLDO UHVHDUFK LQ WKH 8QLWHG 6WDWHV

RI SV\FKRVRFLDO IXQFWLRQ DQG G\VIXQFWLRQ
SURYLGHV WKH EDVLV IRU HIIHFWLYH SUHYHQWLRQ DQG
LQWHUYHQWLRQ

6: %ULGJH WR 3UDFWLFH ,,,
3UDFWLFHG)RFXVHV 5HVHDUFK 0HWKRGV

3UHUHTXLVLWH 1RQH
7KLV FRXUVH DVVXPHV D EDVLF NQRZOHGJH RI
VRFLDO UHVHDUFK FRQFHSWV DQG PHWKRGRORJ\
,W DGGV WR WKLV IXQG RI LQIRUPDWLRQ E\ SUR
YLGLQJ DGYDQFHG NQRZOHGJH DQG VNLOOV LQ
UHVHDUFK PHWKRGV ZLWK SDUWLFXODU HPSKDVLV
RQ SURFHVV DQG RXWFRPH SUDFWLFH UHVHDUFK
PHWKRGV 7KH FRXUVH LV EDVLFDOO\ D VWXG\ RI
SUDFWLFH RXWFRPH UHVHDUFK 7KH FRXUVH IRFXVHV
RQ VLQJOH FDVH GHVLJQV QHHGV DVVHVVPHQW
DQG SURJUDP HYF„€0` <Ò‘•JH0`0p°€”½ÄP AÍUV@ 0p`ÍUVHGJVH GHVL
0RÐHUHT HYFÄ€`À€`0
UDP A`PVVÍ"° p°s`€p0QÁ¥FK
DD0
QWJ@

HWKLFV GHYHORSLQJ DQG SUHVHQWLQJ PHDQLQJIXO DVVHVVPHQWV DV W
KHDOWK HYLGHQFH ZRUNLQJWRZDUGV HPSOR\HUV 6WXGH
UHODWHG ÀHOGV ULVN DQG VDIHJXDUGLQJ FRQVLGHUDWLRQV
GHYHORSPHQW ZKLFK LQÁXHQFH[RFXVHG RQ YLVXDOL]DWLRQ WKHRULHV LQWHUQVKL
FRQFHSW RI UHVWRUDWLYH MXVWLFH SHUVSHFWLYHV RQ HDVWHUQ GHLFDWLQ
WLYH WR WUDGLWLRQDO QRWLRQV RI GLVFLSOLQH DQG)UL
WKH FRPSHWHQF\ RI DQ DFFXVHG GXULQJ DQG DIWHU DFDGHPLF
ULJKWV WR ZDLYH ULJKWV WR EH WULHG DQG WR EH
H[HFXWHG WKH UROH RI WKH 6:RFLDO ZRUNHU LQ MXYH
QLOH MXVWLFH DQG DQ HPSKDVLV RQ FRPPXQLW\
VXSHUYLVLRQ SDUROH DQG 3UREDWLRQ RI WKH
FULPLQDO MXVWLFH V\VWHP

0ðp0

6: $GYDQFHG &OLQLFDO 3UDFWLFH
,,, :RUNLQJ :LWK *URXSV
3UHUHTXLVLWH $GPLVVLRQ WR WKH 6RFLDO :RUN
3URJUDP
&XUUHQW JURXS LQWHUYHQWLRQV XVHG ZLWK D
GLYHUVH SRSXODWLRQ RI FKLOGUHQ DGROHVFHQWV
DGXOWV DQG WKH HOGHUO\ ZLOO EH FRYHUHG LQ WKLV
FRXUVH 6WXGHQWV ZLOO EHFRPH IDPLOLDU ZLWK
FKLOGUHQ DGROHVFHQWV DGXOWV DQG WKH HOGHUO\
IURP GLYHUVH EDFNJURXQGV DIÀUPLQJ DQG
UHVSHFWLQJ WKHLU VWUHQJWKV DQG GLIIHUHQFHV LQ
JURXS VHWWLQJV 7KH PDMRU IRFXV RI WKLV FRXUVH
LV RQ WKH LGHQWLÀFDWLRQ DQDO\VLV DQG LPSOH
PHQWDWLRQ RI HPSLULFDOO\ EDVHG LQWHUYHQWLRQ
VWUDWHJLHV IRU FOLQLFDO SUDFWLFH ZLWK JURXSV
6WXGHQWV ZLOO H[SORUH PXOWLSOH SHUVSHFWLYHV LQ
WKH DGYDQFHG DSSOLFDWLRQ RI WKHRULHV PRGHOV
DQG VNLOOV XWLOL]HG LQ VKRUW DQG ORQJHU WHUP
JURXS LQWHUYHQWLRQV 7KLV FRXUVH LV EDVHG RQ
VRFLDO ZRUN YDOXHV DQG WKH HWKLFDO GHFLVLRQ
PDNLQJ SURFHVV DV SUHVHQWHG LQ WKH 1$6:
&RGH RI (WKLFV

6: $GYDQFHG)LHOG 3ODFHPHQW
,,,
3UHUHTXLVLWH $GPLVVLRQ WR DGYDQFHG VWDQGLQJ
06: SURJUDP RU 6:
6WXGHQWV ZLOO EXLOG RQ WKHLU IRXQGDWLRQ
NQRZOHGJH DQG H[SHULHQFH IURP WKH ÀUVW \HDU
LQWHUQVKLS DV WKH\ EHJLQ DGYDQFHG SODFHPHQWV
LQ WKHLU FRQFHQWUDWLRQ DUHD HLWKHU WKH GHYHORS
PHQW RI DGYDQFHG FOLQLFDO VNLOOV LQ &KLOGUHQ
DQG)DPLO\ 6HUYLFHV RU 6XEVWDQFH $EXVH
6WXGHQWV LQ $GYDQFHG)LHOG 3ODFHPHQW ,,, ZLOO
FRPSOHWH KRXUV RI VXSHUYLVHG LQWHUQVKLS
FORFN KRXUV SHU VHPHVWHU GHGLFDWLQJ
IXOO GD\V SHU ZHHN 0RQGD\ 7XHVGD\ DQG
)ULGD\ IRU WKH GXUDWLRQ RI WKH DFDGHPLF \HDU

6: $GYDQFHG)LHOG 3ODFHPHQW
,9
3UHUHTXLVLWH 6:
6WXGHQWV ZLOO EXLOG RQ WKHLU IRXQGDWLRQ
NQRZOHGJH DQG H[SHULHQFH IURP WKH ÀUVW
\HDU LQWHUQVKLS DQG WKHLU ÀUVW DGYDQFHG ÀHOG

6: 6RFLDO :RUN 3UDFWLFH DZZKOO DV VSHFLÀF HYLGHQFH ED
'RPHVWLF 9LROHQFH WLRQV WR XVH IRU LQGLYLGXDOV Z
3UHUHTXLVLWH 1RQH RI VHULRXV PHQWDO LOOQHVV ,W
7KLV HOHFWLYH H[DPLQHV WKH XQLTXH VRFLDO DQG SV
VLRQ DQG YLROHQFH RQ LQGLYLGXDOV DQG IDPLOLHV D SUH R
RXU VRFLHW\ 7KH FRXUVH IRFXVHV RQ KRZ SHRSOH ZLOO EH SURYL
SUDFWLWLRQHUV UHFRJQL]H ZDUQLQJ VLJQV DQG WR LQWHUYHQH
ZLWK SHUVRQV DIIHFWHG E\ YLROHQFH ZRUWXUHF
LOOQ WLWLÀ UOO EH QFH H RDFK

6: &ULVLV ,QWHUYHQWLRQ
3UHUHTXLVLWH 1RQH
7KLV FRXUVH DSSOLHV FULVLV WKHRU\ WR LQWHUYHQ
WLRQ VHUYLFHV IRU VXLFLGH UDSH QDWXUDO GLVDV
WHUV DQG RWKHU FULVHV $ EDVH RI FULVLV WKHRU\
ZLOO EH GHYHORSHG DQG WKHQ DSSOLHG WR YDULRXV
W\SHV RI FULVHV LQFOXGLQJ VXLFLGH VH[XDO DV
VDXOW UDSH QDWXUDO DQG PDQPDGH GLVDVWHUV
SHUVRQDO ORVV EDVLF QHHGV DWWDLQPHQW WHUPL
QDO LOOQHVV DQG OLIH F\FOH FULVHV

6: 6HPLQDU RQ &OLQLFDO 3UDFWLFH
LQ &KLOG :HOIDUH
7KLV LQWHJUDWLYH VHPLQDU ZLOO DOORZ VWXGHQWV
WKH RSSRUWXQLW\ WR H[SORUH D YDULHW\ RI LVVXHV
DQG SUREOHPV LQ WKH DUHD RI FKLOG ZHOIDUH
DQG WUHDWPHQW (PSKDVLV ZLOO EH SODFHG XSRQ
VKDULQJ H[SHULHQFHV JDLQHG GXULQJ WKH ÀHOG
LQWHUQVKLS DQG DSSOLFDWLRQ RI WKH FRXUVH FRQ
WHQW WR DVVHVVPHQW RU SUREOHP VROYLQJ

6:)DPLO\ 7KHUDS\
3UHUHTXLVLWH 6:
%XLOGLQJ XSRQ WKH JHQHUDOLVW EDVH GHYHORSHG
LQ WKH IRXQGDWLRQ \HDU 6RFLDO :RUN 3UDFWLFH
VHTXHQFH 06: SURJUDP JUDGXDWHV LQ WKH
VXEVWDQFH DEXVH FRQFHQWUDWLRQ ZLOO V\QWKHVL]H
D EURDG UDQJH RI NQRZOHGJH DQG VNLOOV UHODWHG
WR SUDFWLFH ZLWK DGGLFWHG FOLHQWV LQGLYLGXDOO\
DQG LQ JURXSV 7KH FRXUVH SUHVHQWV WHFKQLTXHV
DQG VNLOOV QHHGHG WR DVVHVV IRU DQG GLDJQRVH
DOO FDWHJRULHV RI VXEVWDQFH DEXVH DQG GHSHQ
GHQFH $GGLWLRQDOO\ LQVWUXFWLRQ ZLOO EH JLYHQ
RQ WUHDWPHQW SODQQLQJ DQG WKH FRQWLQXXP RI
FDUH LQ VXEVWDQFH DEXVH VHUYLFHV

6: &RPPXQLW\ 0HQWDO +HDOWK
3UDFWLFH
3UHUHTXLVLWH $GPLVVLRQ WR WKH 6RFLDO :RUN
3URJUDP
7KLV FRXUVH LV DLPHG DW GHYHORSLQJ WKH NQRZO
HGJH DQG VNLOOV QHFHVVDU\ IRU ZRUNLQJ ZLWK
LQGLYLGXDOV ZLWK D GLDJQRVLV RI VHULRXV PHQWDO
LOOQHVV XVLQJ UHFRYHU\ RULHQWHG HYLGHQFH
EDVHG SUDFWLFHV ,W LV GHVLJQHG IRU 06: VWX
GHQWV DQG 06: PHQWDO KHDOWK SUDFWLWLRQHUV
6WXGHQWV ZLOO EHFRPH IDPLOLDU ZLWK HYLGHQFH
EDVHG SUDFWLFHV ZLWKLQ D UHFRYHU RULHQWHG
SDUDGLJP DV D JHQHUDO DSSURDFK WR SUDFWLFH

FR H[LVWLQJ GLVRUGHUV VH[XDO RULHQWDWLRQ DQG UDFLDO DQG FXOWXUDO LVVXHV DPRQJ RWKHUV 7KLV VHPLQDU ZLOO JLYH VWXGHQWV WKH FKDQFH WR KHOS GLUHFW WKHLU OHDUQLQJ H[SHULHQFH E\ XVLQJ WKHLU

:0%$ 0DQDJHULDO 'HFLVLRQ0%$ 0DQDJHPHQW ,QIRUPDWLRQ
$QDO\VLV 6\VWHPV
$ VWXG\ RI DGYDQFHG TXDQWLWDWLYH WHFKQLTXHV DQG WKHLU DSSOLFDWLRQV 7RSLFV LQFOXGH JDPH WKHRUHWLF DSSURDFKHV IRUHFDVWLQJ OLQHDU SURJUDPPLQJ DQG DVVLJQPHQW SUREOHPV PRGHOV SURMHFW PDQDJHPHQW DQG PDUNHW DQDO\VLV
:0%$ 6WUDWHJLF 0DUNHWLQJ
7KLV FRXUVH SURYLGHV D VWXG\ RI WKH VWUDWHJLF PDQDJHULDO DSSHFWV RI PDUNHWLQJ JURZWK RI (&RPPHUFH 7RSLFV LQFOXGH PDUNHW SXFW SULFH SURPRWLRQ DQG GLVWULEXWLRQ SODQQLQJ LPSOHPHQWLQJ DQG PDUNHWLQJ RSHUDWLRQV
:0%$ 0DQDJHULDO)LQDQFH
$ VWXG\ RI ÀQDQFLDO ULVN DQG UHWXUQ SURFHVV GHVLJQ FDSDWDO EXGJHWLQJ YDOXDWLRQ DFFRXQWLQJ DQG GHVLJQLQJ FDSLWDO VWUXFWXUH DQG SROLF\ ZRUN¤LQJ FDSLWDO PDQDJHPHQW DQG WHFKQLTXHV LQ ÀQDQFLDO PDQDJHPHQW 7KH VWXGHQW ZLOO EH H[SRVHG WR GHYHORS D VWUDWHJLF DQDO\WLFDO DSSURDFK WR ÀQDQFLDO GHFLVLRQ PDNLQJ LQ D JOREDO HQYLURQPHQW 7RSLFV LQFOXGH PDUNHW VHJPHQWDWLRQ SURGXFW SRVLWLRQLQJ SULFLQJ GHFLVLRQV GLVWULEXWLRQ FKDQQHOV DQG SURPRWLRQDO VWUDWHJLHV
:0%$ (QWUHSUHQHXUVKLS
9HQWXUHV
3UHUHTXLVLWH 1RQH
7KLV FRXUVH LV GHVLJQHG IRU VWXGHQWV LQWHUHVWHG LQ $ VWUDWHJLF HQWUHSUHQHXULDO FDUHHUV ZLOO EH H[SRVHG WR EXVLQHVVHV WKDW KDYH SRLQW R VWDUWXS SURFHVV DQG VWUDWHJLHV IRU VXFFHVVIXO YHQWXUHV DQG WKH ROLNHOLKRRG RI VXFFHVV 7RSLFV FRQHUHG LQFOXGH PRGHOV RI QHZ YHQWXUH IRUPDWLRQ VWUDWHJLF UHVRXUFH DFTXLVLWLRQ DQG GHSOR\PHQW PDUNHWLQJ RSHUDWLRQV DQG À QDQFLDO VWUDWHJLHV IRU VXFFHVVIXO YHQWXUHV DQG WKH OHDGHUVKLS VNLOOV DQG EHKDYLRUV UHTXLUHG IRU YHQWXUH VXFFHVV

*UDGXDWH)DFXOW\

%((/0$1 /<11($
1XUVH 3UDFWLFLRQHU DQG $VVLVWDQW 3URIHVVRU RI 1XUVLQJ 0 6 1 .HQQHVDZ 6WDWH 8QLYHUVLW\ % 6 1 2DNODQG 8QLYHUVLW\

%(// -2< 1
$VVLVWDQW 3URIHVVRU RI ,QFOXVLYH (GXFDWLRQ (G ' /RXLVLDQD 6WDWH 8QLYHUVLW\ 0 (G /RXLVLDQD 6WDWH 8QLYHUVLW\ % 6 /RXLVLDQD 6WDWH 8QLYHUVLW\

%(// 0$5/$
3URIHVVRU RI 0DWKHPDWLFV 3K ' &OHP VRQ 8QLYHUVLW\ 0 6 &OHPVRQ 8QLYHU VLW\ % 6 :HVWHUQ &DUROLQD 8QLYHUVLW\

%(11(77 '$9,' 1
$VVRFLDWH 'HDQ IRU 3ODQQLQJ &RP PXQLFDWLRQ DQG ,QIUDVWUXFWXUH DQG 3URIHVVRU RI 1XUVLQJ 3K ' 8QLYHUVLW\ RI 0LVVLV VLSSL 0 6 1 8QLYHUVLW\ RI $ODEDPD DW %LUPLQJKDP % 6 1 -DFNVRQYLOOH 6WDWH 8QLYHUVLW\ % 6 -DFNVRQYLOOH 6WDWH 8QL YHUVLW\

%,// 0 /28,6(
3URIHVVRU RI 6RFLDO :RUN $GPLQLVWUD WLRQ 3K ' &ODUN $WODQWD 8QLYHUVLW\ 0 6 : 8QLYHUVLW\ RI *HRUJLD 0 6 *HRUJLD 6WDWH 8QLYHUVLW\ % $ *HRUJLD 6WDWH 8QLYHUVLW\

%,121*2 -26(1,/2 *
$VVLVWDQW 3URIHVVRU RI 6WDWLVWLFV 3K ' 8QLYHUVLW\ RI 8OVWHU 0 (G 8QLYHUVLW\ RI 9LUJLQLD 0 6 6RSKLD 8QLYHUVLW\ 7RN\R -DSDQ % 6 $WHQHR GH 0DQLOD 8QLYHUVLW\ 3KLOOLSLQHV

%,5' 6$1'5$
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ORFDWLRQ PDS
$FFHOHUDWHG %DFKHORU·V 0DVWHU·V $%0
$FFHVVLELOLW\ DQG (PSOR\PHQW
$FFHVVLELOLW\ LQ)DFLOLWLHV 3URJUDPV DQG (PSOR
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$FTXLUHG ,PPXQH 'HÀFLHQF\ 6\QGURPH $,'6 3ROLF\
$GGLWLRQDO *UDGXDWH
$GPLVVLRQ 3ROLFLHV
,PPXQL]DWLRQ 5HTXLUHPHQW
,QWHUQDWLRQDO $SSOLFDQWV
5HDGPLVVLRQ WR *UDGXDWH 6WXG\

*HQHUDO $GPLVVLRQ 5HTXLUHPHQWV
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3URJUDP 5HTXLUHPHQWV
%XVLQHVV $GPLQLVWUDWLRQ 3XEOLF $GPLQLVWUDWLR
3URJUDP $GPLVVLRQ 5HTXLUHPHQWV
3URJUDP 5HTXLUHPHQWV

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&DOHQGDU $FDGHPLF
&DUHHU 6HUYLFHV &HQWHU
&HQWHU IRU +HDOWK 3URPRWLRQ :HOOQHVV
&HQWHU IRU 6WXGHQW /HDGHUVKLS &6/
&KDQJLQJ IURP 1RQ 'HJUHH WR
'HJUHH 6WDWXV
&RLOV '%$
*HQHUDO 5HTXLUHPHQWV IRU $GPLVVLRQ
3URJUDP 'HVFULSWLRQ
7UDQVIHU &UHGLW
&RLOV ([HFXWLYH 0%$
$GPLVVLRQ &ULWHULD IRU 1RQ 'HJUHH 6WXGHQW
*UDGHV LQ *UDGXDWH &RXUVHV
3HWLWLRQ WR *UDGXDWH
3URJUDP)HHV
5HTXLUHPHQWV IRU $GPLVVLRQ
7UDQVIHU &UHGLW
&RLOV 0%$
)RXQGDWLRQ 5HTXLUHPHQWV
*HQHUDO 5HTXLUHPHQWV IRU $GPLVVLRQ
3URJUDP 'HVFULSWLRQ
5HDGPLVVLRQ WR WKH &RLOV 0%$
7UDQVIHU &UHGLW
&RLOV 0%$ 6WXGHQWV
&RPSXWLQJ 6HUYLFHV
&RQÁLFW 0DQDJHPHQW 06
$FDGHPLF ([FXVLRQ
)LQDQFLDO ,QIRUPDWLRQ DQG $VVLVWDQFH IRU 06&0
*HQHUDO 5HTXLUHPHQWV IRU $GPLVVLRQ WR 06&0 3U
06&0 3URJUDP 'HVFULSWLRQ
06&0 3URJUDP 0LVVLRQ
7UDQVIHU &UHGLW
&RQÁLFW 0DQDJHPHQW 06&0
&RXUVHV
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*HQHUDO 5HTXLUHPHQWV IRU $GPLVVLRQ WR WK
*HRUJLD :HE0%$
 $GPLVVLRQ &ULWHULD IRU
 1RQ 'HJUHH 6WXGHQWV
 )RXQGDWLRQ 5HTXLUHPHQWV
 *HQHUDO 5HTXLUHPHQWV IRU $GPLVVLRQ
 *UDGHV
 .68 &RXUVH 6XEVWLWXWLRQV
 0DQGDWRU\ 2ULHQWDWLRQ
 3HWLWLRQ WR *UDGXDWH
 3URJUDP 'HVFULSWLRQ
 5HDGPLVVLRQ WR WKH
 *HRUJLD :HE0%$
 7UDQVIHU &UHGLW
*HURQWRORJ\ &RQFHQWUDWLRQ
*UDGHV
*UDGXDWH DQG 3URIHVVLRQDO 'HJUHHV OLVWLQJ
*UDGXDWH &HUWLÀFDWH
3URJUDP LQ &UHDWLYH
:ULWLQJ
 $GPLVVLRQ 5HTXLUHPHQWV
 3URJUDP RI 6WXG\
*UDGXDWH &HUWLÀFDWH 3URJUDP LQ ,QIRUPDWLRQ 6H
DQG $VVXUDQFH
 $GPLVVLRQ 5HTXLUHPHQWV
*UDGXDWH &HUWLÀFDWH 3URJUDP LQ 3URIHVVLRQDO :U

 3URIHVVLRQDO :ULWLQJ IRU ,QWHUQDWLRQDO $XGLHQ

 3URJUDP RI 6WXG\
*UDGXDWH 6WXGHQW :RUN
2SSRUWXQLWLHV

+

+RUDFH :  6WXUJLV /LEUDU\
+RZ WR $SSO\

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,GHQWLÀFDWLRQ &DUGV
,I 7XLWLRQ LV 3DLG E\ &RPSDQ\
 7KLUG 3DUW\ 3D\PHQW
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0DVWHU RI (GXFDWLRQ 0 (G LQ (GXFDWLRQDO /HDGH
*HQHUDO 5HTXLUHPHQWV IRU $GPLVVLRQ WR 0 (G LQ
3URJUDPV RI 6WXG\
(WKLFV 0XOWLFXOWXUDO &RQFHQWUDWLRQ
7HFKQRORJ\ /HDGHUVKLS &RQFHQWUDWLRQ
7UDQVIHU &UHGLW
0DVWHU RI (GXFDWLRQ 0 (G LQ (OHPHQWDU\ DQG (DU
(GXFDWLRQ
*HQHUDO 5HTXLUHPHQWV IRU $GPLVVLRQ WR 0 (G LQ
/LFHQVXUH 5HTXLUHPHQWV
0RQWHVVRUL &RQFHQWUDWLRQ
3URJUDP RI 6WXG\
0DVWHU RI (GXFDWLRQ 0 (G LQ ,QFOXVLYH (GXFDWLR
'HJUHH 5HTXLUHPHQWV
(SRUWIROLR
*HQHUDO 5HTXLUHPHQWV IRU $GPLVVLRQ WR 0 (G LQ
3URJUDPV RI 6WXG\
,QGLYLGXDOL]HG *HQHUDOL]HG &XUULFXOXP &RQFHQ
7HDFKHUV RI (QJOLVK WR 6SHDNHUV RI 2WKHU /DQJX
0DVWHU RI 3XEOLF $GPLQLVWUDWLRQ 3URJUDP 'HVFUL
0DVWHU RI 6FLHQFH LQ $SSOLHG &RPSXWHU 6FLHQFH
0DVWHU RI 6FLHQFH LQ $SSOLHG 6WDWLVWLFV
0DVWHU RI 6RFLDO :RUN
0 (G LQ $GROHVFHQW (GXFDWLRQ
'HJUHH 5HTXLUHPHQWV
)XOO 6WDQGLQJ
*HQHUDO 5HTXLUHPHQWV IRU $GPLVVLRQ WR 0 (G LQ

5

5HDGPLVVLRQ WR WKH 0DVWHU RI
$FFRXQWLQJ 3URJUDP

6

6H[XDO +DUDVVPHQW
6H[XDO +DUDVVPHQW 3URFHGXUHV IRU +DQGOLQJ &RP
6SRUWV &OXEV
6WDWHPHQW RI 6WXGHQW 5LJKWV DQG 5HVSRQVLELOL
6WXGHQW $FWLYLWLHV %XGJHW $GYLVRU\ &RPPLWWH
6WXGHQW $WKOHWH 6XFFHVV 6HUYLFHV
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,QGH[

5HJLVWUDWLRQ)HH :DLYHU IRU
6HQLRU &LWL]HQV
6SHFLDO)HHV DQG ([SHQVHV
6WXGHQW +HDOWK)HHV
7KH 0DVWHU RI 6FLHQFH LQ &RQÁLFW 0DQDJHPHQW 3U
7KH 0DVWHU RI 6FLHQFH LQ 1XUVLQJ 3URJUDP)HHV
7KH 0DVWHU RI 6FLHQFH ZLWK D 0DMRU LQ $SSOLHG &
:LWKGUDZDO 5HIXQG RI 6WXGHQW)HHV

8

8QGHUJUDGXDWH &HUWLÀFDWH 3URJUDPV ²
8QGHUJUDGXDWH 'HJUHH /LVWLQJ

9

9LVLRQ DQG 0LVVLRQ 6WDWHPHQWV
9LVLWV %\ &KLOGUHQ

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:HE %DVHG ,QVWUXFWLRQ 'HOLYHU\
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