George Mason University College of Education and Human Development Graduate School of Education

Secondary Teacher Education Program

EDUC 422/522, Foundations of Secondary Education

Fall, 2009/Section 002 Professor

Llovd Duck, Ph.D.

GMU, Graduate School of Education

Phone: 703/993-2047 E-mail: lduck@gmu.edu

Office Hours: TW, 3:30-5:30 P.M./Robinson A332

Course Dates/Times/Locations: W, 7:20-10:00 P.M., Robinson A107

I. Description and Overview

A. EDUC 522, Foundations of Secondary Education (3:3:0)

B. Education 522 offers an analysis of the philosophical assumptions, curriculum issues, learning theories, and history associated with current teaching styles. Emphasis is on applications to all disciplines taught in secondary schools and to all learning styles. Current educational trends/issues are examined in relation to the sociology of secondary school settings and classroom management approaches. Lecture/discussion/simulation.

II. Student Outcomes

- A. Students should be able to analyze teaching behaviors and categorize them according to their relationships to the following major educational philosophies: Behaviorism, Perennialism, Essentialism, Experimentalism, Existentialism, and Reconstructionism.
- B. Students should be able to examine the relationships among philosophy, curriculum issues, learning theories, history, and teaching styles.
- C. Students should be able to state their own philosophical positions in regard to the following questions:
 - 1. What is the nature of the learner?
 - 2. What is the nature of one subject matter area you wish to teach?
 - 3. What are the possibilities of that subject matter area for guiding students toward meaningful learning experiences?
 - 4. What kinds of teaching behaviors will you exhibit to exemplify your philosophical position?
 - 5. What approaches to classroom management do you prefer?
- D. Students will be able to take positions on selected issues in education and analyze how those positions relate to teaching style preferences.

[Relationship to Program Goals and Professional Organizations: EDUC 422/522 emphasizes the following standards developed by Interstate New Teacher Assessment and Support Consortium (INTASC).

- II. The teacher understands how students learn and develop and can provide learning opportunities that support a student's intellectual, social, and personal development.
- III. The teacher understands how students differ in their approaches to learning and creates instructional opportunities that are adapted to diverse learners.

- IV. The teacher uses an understanding of individual and group motivation and behavior to create a learning environment that encourages positive social interaction, active engagement in learning, and self-motivation.
- IX. The teacher is a reflective practitioner who continually evaluates the effects of his or her choices and actions on others and who actively seeks out opportunities to grow professionally.

Through position papers, sample lessons representing six teaching styles, and debriefing activities, the course secondarily emphasizes the following INTASC standards.

- I. The teacher understands the central concepts, tools of inquiry, and structures of the discipline he or she teaches and can create learning experiences that make these aspects of subject matter meaningful to students.
- VII. The teacher plans instruction based upon knowledge of subject matter, state and national standards, students, and the community.

Through on-line discussion the course also attends to the following INTASC standard.

VI. The teacher uses knowledge of effective verbal, non-verbal, and media communication techniques and appropriate technology to foster active inquiry, collaboration, and supportive interaction in the classroom.]

III. Outline of Topics/Activities (SEE DAILY CLASS SCHEDULE [PAGES 9-10] FOR DETAILS ABOUT PACING OF READINGS/REQUIREMENTS.)

- A. Teaching Styles/Learning Styles Overview (Sessions I [9/2] IV [9/23])
 - 1. Introduction to Analysis of Teaching Styles and Learning Styles
 - a. playing the supervisory role/giving advice to a teacher
 - b. implications for secondary school disciplines
 - c. applying an analytical tool
 - d. learning styles and implications for teaching styles
 - e. Myers-Briggs Type Indicator and temperament types/individualizing classroom experiences

[Emphasis: Mid/Sec]

(Reading: <u>Teaching with Charisma</u>, ch. 1; <u>Education 09/10</u>, "Nine Powerful Practices" [66] and "Self-Regulation" [203], "The Essential Cognitive Backpack" [72] and "Uncovering Teacher Leadership" [118])

2. Essentialist Teaching (Sessions V [9/30]-VI [10/7]).SEE DAILY

SCHEDULE.

- a. model lesson: Is the Kensington Stone a genuine artifact?
- b. strengths/weaknesses and implications
- c. philosophical assumptions
- d. use of learning theory
- e. history

[Emphasis: Sec]

(Reading: <u>Teaching with Charisma</u>, ch. 2; <u>Education 09/10</u>, "Bridging the Gap between Research/Practice" [7] and "Charting a New Course for Schools" [35])

- 3. Experimentalist Teaching Style (Sessions VI 10/7] VII [10/14])
 - a. model lesson: "No Vehicles in the Park"
 - b. strengths/weaknesses and implications

- c. philosophical assumptions
- d. use of learning theory
- e. history

[Emphasis: Mid]

(Reading: <u>Teaching with Charisma</u>, ch. 3; <u>Education 09/10</u>, "Learning to Love Assessment" [15] and "Assessing Applied Skills" [29], "The Case For and Against Homework" [19] and "From the Mouths of Middle-Schoolers" [32])

- 4. Reconstructionist Teaching (Session VIII 10/21). SEE DAILY SCHEDULE.
 - a. model lesson: Global Village Game
 - b. strengths/weaknesses and implications
 - c. philosophical assumptions
 - d. use of learning theory
 - e. history

[Emphasis: Sec]

(Reading: <u>Teaching with Charisma</u>, ch. 4; <u>Education 09/10</u>, "Where Have All the Strong Poets Gone?" [2] and "Letters to a Young Teacher" [110], "Promoting Altruism in the Classroom" [220] and "Becoming Citizens of the World" [225])

- 5. Existentialist Teaching Style (Session IX [10/28]). SEE DAILY SCHEDULE.
 - a. model lesson: "Petition from Women of Utah"
 - b. strengths/weaknesses and implications
 - c. philosophical assumptions
 - d. use of learning theory
 - e. history

[Emphasis: Sec]

(Reading: <u>Teaching with Charisma</u>, ch. 5; <u>Education 09/10</u>, "Not Writing It Out But Writing It Off" [97] and "High Schools Have Got It Bad for Higher Ed" [77], "Character and Academics" [215] and "Discipline" [173])

- 6. Perennialist Teaching Style (Session X [11/4]). SEE DAILY SCHEDULE.
 - a. model lesson: Great Books discussion of <u>A Penny a Look</u>
 - b. strengths/weaknesses and implications
 - c. philosophical assumptions
 - d. use of learning theory
 - e. history

[Emphasis: Mid]

(Reading: <u>Teaching with Charisma</u>, ch. 6; <u>Education 09/10</u>, "All Our Students Thinking" [85] and "Industrial Arts" [89])

- 7. Behaviorist Teaching Style (Session X [11/4]). SEE DAILY SCHEDULE.
 - a. model lesson: A Token Economy
 - b. strengths/weaknesses and implications
 - c. philosophical assumptions
 - d. use of learning theory
 - e. history

[Emphasis: Mid/Sec]

(Reading: Teaching with Charisma, ch. 7)

- 8. The Teaching Styles/Learning Styles Match (Session X [11/4])
 - self-assessment for learning styles/Myers-Briggs Type Indicator and 4MAT
 - b. implications for instruction

[Emphasis: Mid/Sec]

(Reading: <u>Education 09/10</u>, "As Diversity Grows, So Must We" [49] and "What Families Want" [55]; Recommended: Carolyn Orange, <u>The Quick Reference Guide to Educational Innovations</u>)

 The Sociology of Schools (Sessions XI [11/11] - XIV [12/9]). SEE DAILY SCHEDULE.

- a. Hamilton High as case study
- b. analysis of 32 years of reform at Hamilton High in view of teaching styles, learning styles, and temperament types/high schools and the future
- c. classroom management and legal issues

[Emphasis: Sec]

(Reading: The World We Created at Hamilton High; Education 9/10, "When Mama Can't Read" [166] and "Confronting Ableism" [130], "Dealing with Rumors, Secrets, Lies" [179] and "Tackling a Problematic Behavior Management Issue: Bullying" [185]; "Developing Effective Behavior Intervention Plans" [193] and "Why Teacher Networks (Can) Work" [105]; Solving Discipline and Classroom Management Problems; Recommended: Donald Graves, The Energy to Teach)

B. Field Experiences Component

- 1. Students visit school settings and analyze preferences by collecting data based on the following:
 - a. observing a discussion session for the kinds of student participation that occur
 - b. observing teaching techniques to determine which ones involve students in divergent thinking and which in convergent thinking
 - c. observing lessons to determine how many academic disciplines are used in each lesson
 - d. observing lessons in which individualization of instruction is a major focus
 - e. observing lessons involving controversial issues
 - f. talking with teachers to determine which methods they prefer
 - g. observing rules and procedures to determine potential preferences for relationship/listening, confronting/contracting, or rules/consequences approaches to classroom management
- 2. Students complete papers (of about <u>8</u> typewritten pages) based on the analytical tool and using data collected above.

C. Educational Issues Component

- 1. After each major course topic, students work in cooperative learning groups to analyze issues presented in Education 09/10.
- 2. For selected issues, students will participate in online discussions in preparation for the in-class cooperative learning activities based on articles in <u>Education 09/10</u>. A list of protocols for online discussions will be provided, as well as a rubric for assessing the quality of discussion contributions.
- 3. Students analyze and assess how their positions on issues relate to teaching style preferences. (Reading: <u>Education 09/10</u>, as indicated above after major topics)
- 4. The class participation grade may be strengthened by sharing a brief (10-15 minutes) review/critique of a book listed below under <u>Alternative Class Participation/Book Review Selections</u>. Readings for cooperative learning group activities will be reduced for those choosing this option.

D. Article Summaries Component

- 1. **FOR GRADUATE CREDIT,** each student in EDUC 522 (not EDUC 422) is to submit a one-two page summary for each of three articles in professional journals associated with your specialization (i.e., science, mathematics, English, social studies, etc.).
- 2. Include the following in each summary: (1) issue addressed in article, (2) brief article summary, (3) how this relates to an issue studied in EDUC 522, (4) how information in this article applies to your own teacher preparation. BE SURE TO LIST THE FULL

CITATION FOR YOUR ARTICLE AT THE BEGINNING OF EACH SUMMARY.

3. **NOTE:** See journals published by National Council of Teachers of Mathematics (www.nctm.org); National Council of Teachers of English (www.ncte.org); National Council for the Social Studies (www.ncss.org); National Science Teachers Association (www.nsta.org); or Association for Supervision and Curriculum Development (www.ascd.org), etc. You may want to consult www.findarticles.com, if a sample journal issue is not posted at the sites above.

IV. Summary of Major Course Requirements

- A. Parallel reading for the course consists of the following:
 - 1. Duck, L. (1994). *Teaching with charisma*. Burke, VA: Chatelaine Press (now available as separate course packet).
 - 2. Evers, R. (2009). *Annual editions: Education 09/10*. Boston: McGraw Hill/Contemporary Learning Series.
 - 3. Grant, G. (1988). *The world we created at hamilton high*. Cambridge: Harvard University Press.
 - 4. Wolfgang, C. (2005). *Solving discipline and classroom management problems*. New York: John Wiley & Sons.
 - 5. Course Packet of Readings—to be purchased in GMU bookstore.
 - 6. RECOMMENDED: Graves, D. (2001). *The energy to teach.* Portsmouth, NH: Heinemann.
 - 7. RECOMMENDED: Orange, C. (2002). The quick reference guide to educational innovations. Thousand Oaks, CA: Corwin Press.
- B. Students must complete a paper (of approximately <u>8</u> pages, word processing, double spaced) analyzing the teaching style and classroom management preferences one teacher's classroom behavior illustrates.
- C. Students should read all handout materials.
- D. Online discussions.
- E. Class participation/position statements. NOTE: Since class participation is weighted at 25% and since the experiences/benefits of in-class simulations cannot be recreated after the fact, you should make every effort to be in attendance for all class sessions. If you must be away, contact the instructor before your absence. For GRADUATE CREDIT, students must submit a summary of each of three professional journal articles associated with the relevant teaching specialization.
- F. Final essay examination.

V. "Nuts and Bolts"

- A. Assignment Deadlines
 - 1. Position statements--to be announced
 - 2. Article summaries—11/11
 - 3. Paper—12/2
 - 4. Final exam—12/16
- B. Grading Approximations
 - 1. Paper--35% (DETAILED GUIDELINES, OUTLINE, AND RUBRIC AVAILABLE IN COURSE PACKET)
 - 2. Final Examination--40%
 - 3. Participation--25% (PROTOCOL AND RUBRIC FOR ONLINE DISCUSSION DISTRIBUTED IN CLASS)
- C. The major performance-based assessment is the Field Experiences analysis paper emphasizing teaching style and classroom management preferences for at least one

classroom teacher. (SEE GUIDELINES, OUTLINE, AND RUBRIC IN COURSE PACKET FOR DETAILS REGARDING ASSESSMENT.) In addition, note the grading scale below:

Grading Scale
A+=98-100
A=94-97
A-=90-93
B+=88-89
B=84-87
B-=80-83
C=70-79

F=Did not meet course requirements

The College of Education and Human Development (CEHD) expects that all students abide by the following:

Students are expected to exhibit professional behavior and dispositions. See gse.gmu.edu for a listing of these dispositions.

Students must follow the guidelines of the University Honor Code. See http://www.gmu.edu/catalog/apolicies/#TOC H12 for the full honor code.

Students must agree to abide by the university policy for Responsible Use of Computing. See http://mail.gmu.edu and click on Responsible Use of Computing at the bottom of the screen.

Students with disabilities who seek accommodations in a course must be registered with the GMU Disability Resource Center (DRC) and inform the instructor, in writing, at the beginning of the semester. See www.gmu.edu/student/drc or call 703/993-2474 to access the DRC.

NOTE: Office Hours: TW, 3:30-5:30 P.M.

Other Hours by Appointment/Office: Robinson A332.

IN THE EVENT THAT A MEETING OR APPOINTMENT MAKES ME UNAVILABLE DURING REGULAR OFFICE HOURS, PLEASE DO NOT HESITATE TO CALL ME AT 993-2047 OR CONTACT ME BY E-MAIL (lduck@gmu.edu).

Alternative Class Participation/Book Review Selections

David J. Armor, Maximizing Intelligence

Roger Axtell, Gestures: The Do's and Taboos of World Body Language

Robert Bellah, The Good Society

Harold Bloom, The Western Canon: The Books and Schools of the Ages

James Banner and Harold Cannon, The Elements of Teaching

H. G. Bessinger, Friday Night Lights [highlights high school athletes]

John Bruer, Schools for Thought

Miles Corwin, And Still We Rise: The Trials and Triumphs of Twelve Gifted Inner-City Students

William Damon, <u>Greater Expectations: Overcoming the Culture of Indulgence in America's Homes and</u> Schools

Lisa Delpit, Other People's Children: Cultural Conflict in Class

Bob DeSalle and David Lindley, The Science of Jurassic Park and the Lost World

Tibbi Duboys, ed., Paths to Teaching the Holocaust

Suzette Haden Elgin, You Can't Say That to Me: Stopping the Pain of Verbal Abuse

David Elkind, Ties that Stress: The New Family Imbalance

Ronald Evans, The Social Studies Wars: What Should We Teach the Children?

Samuel Freedman, Small Victories

Thomas French, South of Heaven: Welcome to High School at the End of the Twentieth Century

N. Gershenfeld, When Things Start to Think

Barry Harrington and Beth Christenson, Unbelievably Good Deals that You Absolutely Can't Get

UnlessYou're a Teacher

Jane Healy, The Endangered Mind: Why Children Don't Think

Howard Gardner, Multiple Intelligences or The Unschooled Mind

John Taylor Gatto, <u>Dumbing Us Down: Hidden Curriculum</u>

Mark Gerson, In the Classroom: Dispatches from an Inner City School

John Goodlad, Romances with Schools

Barry Gordon, Memory: Remembering and Forgetting in Everyday Life

Daniel Goleman, Emotional Intelligence

Ruth Wright Hayre, Tell Them We Are Rising: Faith in Education

Gertrude Himmelfarb, The De-Moralization of Society

E. D. Hirsch, The Schools We Need and Why We Don't Have Them

James D. Hunter, <u>Culture Wars</u>

Eric Jensen, Teaching with the Brain in Mind

Dianne Johnson, Telling Tales: The Pedagogy and Promise of African American Literature

Phillip E. Johnson, <u>Darwin on Trial</u> or <u>Reason in the Balance</u>

W. K. Kilpatrick, Why Johnny Can't Tell Right from Wrong

Herbert Kohl, The Discipline of Hope

Alfie Kohn, Punished by Rewards

Jonathan Kozol, <u>Amazing Grace: The Lives of Children and the Conscience of a Nation</u> or <u>Savage Inequalities</u>

Jonathan Kozol, Letters to a Young Teacher

Lawrence M. Krauss, <u>The Physics of Star Trek</u> or <u>Beyond Star Trek</u>: <u>Physics from Alien Invasions to the</u> End of Time

Gloria Ladson-Billings, The Dreamkeepers: Successful Teachers

Kalle Lasn, Culture Jam: The Uncooling of America

Joseph LeDoux, The Emotional Brain: Underpinnings of Emotional Life

Thomas Lickona, Educating for Character

Lawrence Levine, The Opening of the American Mind

James Loewen, Lies My Teacher Told Me: What History Books Got Wrong

Nicholas Mills, The Triumph of Meanness. Boston: Houghton Mifflin, 1997.

John Naisbitt, High Tech/High Touch

Gary Nash, Charlotte Crabtree, and Ross Dunn, <u>History on Trial: Culture Wars and the Teaching of the</u>
Past

Seymour Papert, The Children's Machine: Rethinking School in the Age of the Computer

Christina Rathbone, On the Outside Looking In: A Year in an Inner-City High School

John Allen Paulos, <u>Innumeracy: Mathematical Illiteracy and Its Consequences</u> or <u>A Mathematician Reads</u> the Newspaper

Neil Postman, The End of Education

Robert and Michele Root-Bernstein, <u>Honey, Mud, Maggots, and Other Medical Marvels: Science Behind</u> Folk Remedies

Myra and David Sadker, Failing at Fairness

Del Ratzsch, The Battle of Beginnings: Why Neither Side Is Winning the Creation-Evolution Debate

Diane Ravitch, The Language Police

Phillip Schreiber, <u>Trench Teaching</u>

David Shenk, <u>Data Smog: Surviving the Information Glut</u>

***Harvey Silver, Richard Strong, and Matthew Perini, <u>The Strategic Teacher: Selecting the Right</u>
Research-Based Strategy for Every Lesson

Theodore Sizer, Horace's Hope

Lawrence Steinberg, Beyond the Classroom: Why Reform Has Failed

Robert Sternberg, Beyond IQ or Defying the Crowd: Cultivating Creativity

Clifford Stoll, Silicon Snake Oil: Second Thoughts on the Information Highway

Sherry Turkle, <u>Life on the Screen: Identity in the Age of the Internet</u>

Cornell West, Race Matters

Anne Wheelock, Crossing the Tracks

George H. Wood, A Time to Learn: The Story of One High School's Transformation

Rick Wormeli, Meet Me in the Middle: Becoming an Accomplished Middle Level Teacher

Claudia Zaslovsky, Fear of Math

Jonathan Zimmerman, Whose America?

REVIEW OF STANDARDS AND THEIR RATIONALE in any discipline, such as National Geography Standards/Geography for Life

Field Experience Guidelines

The following suggested field experience activities are designed to help you prepare for writing your paper analyzing teaching styles and classroom management preferences.

- 1. Observe a discussion session for the kinds of student participation that occur. How often are students asked to participate in divergent thinking? How often are students asked to participate in convergent thinking?
- 2. Observe teaching techniques to determine which ones involve students in convergent thinking and which ones involve students in divergent thinking activities.
- 3. Observe a lesson and determine how many academic disciplines the teacher has decided to use in that lesson. How are these various disciplines integrated?
- 4. Observe a "discovery" lesson to determine the nature of the investigation and its outcome.
- 5. Observe an "inquiry" lesson to determine the nature of the investigation and its outcome.
- 6. Observe a lesson in which individualization of instruction is a major focus. How does the instructor plan for helping students at different skill levels improve their expertise?
- 7. Talk with the cooperating teacher about the kinds of controversial issues which his/her students may be studying. Ask permission to observe a session in which a controversial issue is being examined so that you can determine what the issue is and its resolution(s).
- 8. Talk with the cooperating teacher to find out which method(s) he/she prefers to use and why: "discovery," "inquiry," problem-solving discussion, simulations, lectures, directed reading of primary sources, directed reading of secondary sources, "practice" exercises, learning centers, cooperative learning, individual research, group research/labs, activities using software and/or the internet, etc.
- 9. Observe rules and procedures to determine potential preferences for relationship/listening, confronting/contracting, or rules/consequences approaches to classroom management.

NOTE: ALL PROPER NAMES SHOULD BE OMITTED FROM YOUR PAPER. REFERENCES SHOULD BE MADE TO METHODS AND CLASSROOM SITUATIONS IN GENERAL.

Ask your cooperating teacher if you may talk with students briefly and at appropriate times about the activities they are pursuing.

TENTATIVE DAILY CLASS SCHEDULE OF TOPICS***

EDUC 422/522, Section 002/Fall, 2009

(SEE SYLLABUS SECTION III-A FOR DETAILS ABOUT READINGS/ASSIGNMENTS.)

Session I Introduction

9/2 Memories/Analysis of Successful Teachers

Supervision Activity

Session II Introduction/Myers-Briggs Type Indicator (MBTI)

9/9 Examples/Application for Myers-Briggs Type Indicator

[Duck, ch.1; Education 09/10, articles on pp. 66, 203]

Session III Analysis of Supervision Activity

9/16 Applying Teaching Style Principles to High School Classrooms

[Grant, Intro, ch. 1, etc. . .]

Session IV Cooperative Learning: Teaching Styles/Learning Styles Overview

9/23 Debriefing: Cooperative Learning Activity

[Continue Grant, Education 09/10, articles on pp. 72, 118]

Session V Model Lesson: Essentialism 9/30 Debriefing: Essentialism

Viewing Sixteen in Webster Groves

[Continue Grant, Duck, ch. 2; Education 09/10, articles on pp. 7,

35]

Session VI Simulation and Debriefing: <u>Sixteen in Webster Groves</u>

10/7 Model Lesson: Experimentalism

[Duck, ch. 3; Education 09/10, articles on pp. 15, 29]

Session VII Debriefing: Experimentalism

10/14 Field Experiences Requirement Overview/Paper Outline

Distributed

Cooperative Learning Activity: Essentialism/Experimentalism

[Education 09/10, articles on pp. 19, 32]

Session VIII Debriefing: Cooperative Learning Activity

10/21 Model Lesson: Reconstructionism

Debriefing: Reconstructionism

[Duck, ch. 4; Education 09/10, articles on pp. 2, 110, 220, 225;

Orange (recommended)]

Session IX Model Lesson: Existentialism 10/28 Debriefing: Existentialism

Cooperative Learning Activity: Reconstructionism/Existentialism

(Follow-up to On-line Discussion)

[Duck, ch. 5; Education 09/10, articles on pp. 97, 77, 215, 173]

Session X Debriefing: Cooperative Learning Activity

11/4 Report Forms Analysis: MBTI (Teaching Styles/Learning Styles)

Model Lesson: Perennialist Teaching

Debriefing: Perennialism

Behaviorism

Teaching Styles Hour Exam (on Essen., Exp., Recon., Exist.) [Duck, chs. 6, 7; Education 09/10, articles on pp. 85, 89]

Session XI Grid Analysis/The World We Created at Hamilton High

11/11 Introduction to Classroom Management Theories

Article Summaries Due (for GRAD CREDIT ONLY)

[Grant, completion of volume; Education 09/10, articles on pp. 49,

55; Orange (recommended)]

Session XII Classroom Management Videotape Vignettes

11/18 Grid Analysis/Classroom Management Videotapes

[Wolfgang, ch 1 and chapters for your preference]

Thanksgiving Recess

Session XIII Grid Analysis/Classroom Management Videos

12/2 Debriefing: Classroom Management

Field Experiences Papers Due

[Education 09/10, articles on pp. 166, 130, 179, 185]

Session XIV Sharing: Teaching Style and Classroom Management/FE Papers

12/9 Action Research/Overview of Concepts Activity

[Education 09/10, articles on pp. 193, 105; Graves (recommended)]

NOTE: BECAUSE EDUC422/522 HAS A HISTORICAL COMPONENT, 3-4 VIDEO SEGMENTS USED AS THE BASIS FOR SOME ACTIVITIES WILL BE HISTORICAL "CLASSICS" IN THE FIELD, AND 3-4 VIDEO SEGMENTS WILL BE NEWER.

***Due to a CEHD unit requirement, a portion of one class session will include an orientation to the licensure/master's degree options in secondary teacher education. Explanations of program components, including the portfolio to be presented during EDUC 675 (Research), will be provided.

FINAL EXAM

12/16