Name_____

Supplementary materials for

Franssen CL, Lowry GS, Franssen RA (2017) Using action-mapping to design a nonmajors neuroeconomics course to teach first-year collegiate skills. J Undergrad Neurosci Educ 16(1):A52-A59

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FYEC240 MYTHBUSTERS: Why People Make Dumb Decisions Spring 2013

Wednesdays 12:30-1:30 pm, Andrews Hall 7:00-9:00 pm, Copley 205

Instructor:	Dr. George S. Lowry						
Office:	Ragland-Henry House #6	Office phone:	804-752-7306				
Email:	<u>glowry@rmc.edu</u>	Home phone:	804-741-6012				
Office Hours:	TR 9.45-11.15, T 2.30-4.30, W 1:45-4:30; other times by appointment						

Instructor:	Dr. Catherine L. Franssen		
Office:	Ragland-Henry House #3	Cell phone:	804-385-2649
Email:	<u>catherinefranssen@rmc.edu</u>		
Office Hours:	W 1:45-4:30; other times by appe	ointment	

Course Description:

This course will explore decision making from two behavioral perspectives, management and neuroscience. A single, interleaved, year-long, project-based course will examine the biological and behavioral elements affecting the way humans make decisions. Common myths about decision making will serve as vehicles for exploring the drives that influence human choice. Employing mini-projects as object lessons will allow instrumental learning that will build the skills and knowledge base required to responsibly conduct a year-long research project. Area of Knowledge Requirements met: One economics/business course under the Social Sciences area and one non-laboratory science courses in the natural sciences under the Natural and Mathematical Sciences area. Three hours each semester. Franssen and Lowry.

Course Objectives:

- Apply the tools of scientific inquiry to differing decision environments
- Explain how physiology and emotion affect decisions
- Examine the impact of historical developments in science on decision making
- Defend a variety of decision challenges by asking questions and seeking answers that are evidence-based
- Define and present ideas through oral and written communication
- Integrate appropriate technologies
- Display competence in accepting different roles in group settings

Name_____

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Texts:

- Brafman, O. & Brafman, R. (2009). Sway: The Irresistible Pull of Irrational Behavior. Broadway Books.
- Hacker, D. & Sommers, N. (2011). <u>A Writer's Reference.</u> Bedford/St. Martin's.
- * McRaney, D. (2011). You are Not So Smart. Penguin Books, Ltd.
- ✤ O'Shea, Michael. (2005). <u>The Brain: A Very Short Introduction.</u> Oxford University Press.
- ✤ Additional readings as assigned.

Other Materials Required:

- ✤ 3x5 Index cards- bring at least 2 to each class
- ◆ 1 ¹/₂" to 2" 3-ring notebook, dedicated to this course, MUST have clear view pocket on front and side
- ✤ 8-15 tab divider set
- Students will be required to use Moodle to access and print assignments, supplementary materials, etc.
- ✤ Additional items as needed.

Grading Scale:

A+99-100	A93-98	A90-92
B+88-89	B83-87	B80-82
C+78-79	С73-77	C70-72
D+68-69	D63-67	D60-62

Graded Assignments:

Assignment	Points
10 Deliverables (35 points/each)	350
5 Deliverables (45 points/each)	225
3 Deliverables (75 points/each)	225
Final Exam	100
Participation, Workshops, Etc.	100
Total	1000

Collegiate Credit:

The two courses you are taking as the First-Year Colloquium (FYEC 239-240) can be used to help you meet the collegiate requirements with one satisfying the Social Science AOK (Area of Knowledge) and one Natural Science (without lab) AOK.

It is important that you realize the importance of completing both semesters of this FYEC. Any student who fails FYEC 239 will NOT be allowed to enroll in the second semester FYEC but should complete an alternate AOK course during the spring. These students must still take ENGL 185, if it was not successfully completed in the fall semester. A student who does not complete successfully FYEC 240 will receive elective credit for the fall semester, but does not receive any AOK or CAR credit.

Name_

Special Needs:

The **American with Disabilities Act** of 1990 and other Federal laws require Randolph-Macon College to provide a "reasonable accommodation" to any individual who advises of a physical, psychological, or learning disability. If you have a physical, psychological or learning disability that requires an accommodation, you must first register with the Office for Disability Support Services. Please arrange a meeting with either of the course instructors to discuss your needs and how to register for support services.

Attendance

- Students are expected to attend all class sessions.
- College policy permits three class-hours of discretionary absences for a three-hour course.
- Absences for athletic events and other College activities, as well as illness, are counted as discretionary absences.
- You may miss up to 3-hours of class during the semester without penalty. Beyond that, for each hour of absence you will lose 15 points against your final course grade. If you have a significant medical, judicial, family, or other issue which would require you to miss class you must contact one of us ASAP to negotiate alternative assignments.
- Absence from scheduled group meetings held outside of class time is subject to the same 15 point penalty.
- Persistent tardiness class/lab will constitute an absence.
- Late work is not accepted, therefore if you expect to be absent on a day that something is due you must turn that work in BEFORE the start of class on the day it is due.
- If you are absent on a day of a graded in-class assignment or discussion you will receive a zero (0) on that assignment unless you have alerted us to your absence ahead of time **and** we have negotiated an alternative assignment prior to class.
- If you will miss a quiz or test for any reason, contact one or both professors immediately. It may be possible to take a test early; however tests given later may increase in difficulty.

Guidelines and Expectations:

- Send all emails to both professors.
- Send all emails to group members.
- Be on time and be prepared to start class at the appointed time.
- All out-of-class assignments are expected to be handed in at the designated times.
- Refrain from talking to classmates during lecture; it is distracting and you may be asked to leave. Please direct comments to the professor or class in general.
- Decorum dictates a "no hat" rule and a call for "appropriate attire".
- Turn off your cell phone or pager <u>before</u> class starts. All cell phones will be placed on silent mode, put away, and kept out of sight for the duration of the class. This includes checking for text messages.
- The use of a cell phone or other electronic communication device during a quiz or test will result in a grade of zero on that assignment and will be treated as a violation of the academic integrity code.
- All students are expected to have read and to abide by the Academic Integrity Code of Randolph-Macon College.

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Name_

Deliverables & Research Project

Students will complete one semester-long project which builds from the knowledge, skills, and abilities gained in the first semester of the course. Students will generate hypotheses, design an experiment, conduct research, collect and analyze data, summarize the study, and report their process and findings in three ways. The three reporting techniques will be an oral presentation, a written lab report, and a static/dynamic presentation tailored for Research Day.

This semester-long project is divided into eighteen deliverables. The scoring for each deliverable will vary, and will be clearly marked on the rubrics distributed at the beginning of the semester. As each of these deliverables is essential to the research project, all scores will be kept.

Deliverables will be a product of in-class exercises and will build on the material from readings and lecture. Deliverables will develop the knowledge, skills, and abilities of students. While portions of some deliverables will be completed in-class, others may be solely out-of-class. Students may be expected to complete each deliverable individually or as a group, which will be clearly specified in the assignment associated with each deliverable. When work is handled as a group, students will complete peer evaluations to clearly describe the efforts of each individual within the group.

All deliverables (and associated notes and research) must be compiled into the same 3-ring binder from fall semester; and labs and notes from fall semester are expected to remain within the binder. Specific guidelines for title page, table of contents, and other required components will be reviewed during the course.

Testing Your Knowledge—Final Exam

- The final exam will be cumulative for the year.
- The final exam may consist of several different types of questions: multiple-choice, fill-in-the-blank, true-false, drawing, labeling, definitions, matching, short-answer and essay-type questions. Questions may draw from the research projects, texts, lecture notes, supplementary readings, seminars, and videos.
- Students arriving late to class on the day of the final exam will not be given additional time and must turn in the test at the appointed time.
- Questions about grading, etc. may be addressed during office hours, by appointment, or by email/phone. The student's final exam will be kept on file in my office for one year.

Participation and Workshops

The class will often break into small groups to answer specific questions, and report to the class as a whole. Participation and thoughtfulness will be assessed during each class meeting, and will factor into the participation grade of each student.

Unannounced or "pop" quizzes may occur at any point during the semester; these scores may count toward participation grades.

Tentative Schedule – FALL 2012

Week	Date	Time/ Location	Activities	Readings	Assignments & Deliverables (Due Tuesday prior to class unless otherwise specified)
0	Friday 31- Aug		Meet for first time! Introductions Distribute syllabus & Discuss Class Distribute Lab Manual		
	5-Sep	12:30-1:30pm Andrews	Time Management Workshop	Bring your school, work, sports, and other schedules!	Lab 1a (Time mgmt./sched. will be completed in class)
1		7-9pm Copley 100	Quiz 1 Mythbusting Intro Scientific Method Intro Sci. Method Experiment		Lab 2a (Mythbusting Intro will be completed in class)
2	12- Sep	12:30-1:30pm Andrews	Guest Lecture John Mingus - Listening Skills		Lab 1b (Time mgmt sheets) Lab 2b (Mythbusting intro)
2		7-9pm Copley 100	Quiz 2 Sway Book Club 1 Data Analysis Workshop 1	<u>Sway</u> : Intro, 1, 2, 3, 4	Lab 3 (Sci. Method) Lab 4 (Sway Book Club 1)
	19-	12:30-1:30pm Andrews	Guest Lecture John Mingus – Group Work		Lab 5 (Data analysis)
3	Sep	7-9pm Copley 100	Quiz 3 Sway Book Club 2 Data Analysis Workshop 2	<u>Sway</u> : 5, 6, 7, 8, Epilogue	Lab 6 (Sway Book Club 2)
	26-	12:30-1:30pm Andrews	Review Session: Sway		
4	Sep	7-9pm Copley 100	Test 1 Activity: Sways in Action		
	3-Oct	12:30-1:30pm N/A	Focus Skills: Experimental Research No meeting		
5		7-9pm N/A	Focus Skills: Presentations No meeting		
	10-	12:30-1:30pm Andrews	Guest Lecture John Mingus - Presentations		
6	Oct	7-9pm Copley 205	PRESENTATIONS on Sways		Presentations: Sways
7	17- Oct	12:30-1:30pm Andrews	Review Test 1 & Presentation Grades		Lab 7

Name_____

		7-9pm Copley 205	Quiz 4 Econ/Decision Theory (Decision models?)	The Psychology of Investing		
	24- Oct	12:30-1:30pm Andrews	Econ/Decision Theory	The Psychology	Lab 8	
8		7-9pm Copley 205	Quiz 5 Econ/Decision Theory	of Investing		
	31-	12:30-1:30pm Andrews	Econ/Decision Theory	The Psychology		
9	Oct	7-9pm Copley 205	Quiz 6 Econ/Decision Theory	of Investing	Lab 9	
	7))	12:30-1:30pm Andrews	Review Session: Econ/Decision Theory			
10	7-Nov	7-9pm Copley 205	Test 2 Advising Workshop: Pre-registration briefing	-		
	14-	12:30-1:30pm Andrews	Review Test 2; Begin Special Neuro Topics	Brain Rules and	Lab 10 (Degree Audit form)	
11	Nov	7-9pm Copley 205	Seminar: The Brain: Micro & Macro Workshop: Brain Dissection	<u>VSI: Brain</u>	Lab 11 (Brain- will be completed in class)	
12	21- Nov		THANKSGIVING			
13	28- Nov	12:30-1:30pm Andrews 7-9pm Copley 205	Quiz 7 Workshop: Special Neuro Topics Seminar: Peripheral Nervous system Workshop: Sensation & Perception	<u>Brain Rules</u> and <u>VSI: Brain</u>	Lab 12 (S&P- will be completed in class)	
14	5-Dec	12:30-1:30pm Andrews 7-9pm Copley 205	Quiz 8 Review Session: Brain Presentations: Special Neuro Topics	Selected Readings from <u>Brain Rules</u>	Presentations: Special Neuro Topics	
	12- Dec	Copicy 205	FINAI	L EXAM	L	

Tentative Schedule – SPRING 2013

Week	Date	Time/ Location	Activities Readings		Assignments & Deliverables
		11:30-12:30pm	Semester Intro		
	13-Feb	Andrews	Review: Brain	How We Decide	Lab 1: Book Club
1		7-9pm Oliver	Book Club Workshop: Brain (Lab 2)		1 How We Decide
	20 Eab	11:30-12:30pm Andrews	Brain (Lab 2)	How We Decide	Lab 2: Brain
2	20-Feb	7-9pm Oliver	Quiz 1 Book Club Neuroscience Seminar 1		Lab 3: Book Club 2 How We Decide
		11:30-12:30pm Andrews	Neuroscience Lab	How We Decide	Lab 4: Neuroscience
3	27-Feb	7-9pm Oliver	Quiz 2 Book Club Intro Decision Theory		Lab 5: Book Club 3 How We Decide
	6-	11:30-12:30pm Andrews	Decision Theory	How We Decide	Lab 6: Decision Theory
4	4 March	7-9pm Oliver	Quiz 3 Book Club Decision Theory		Lab 7: Book Club 4 How We Decide
5	13- March	11:30-12:30pm Andrews	Review: <u>How We Decide;</u> Neuroscience, Decision Theory		
5		7-9pm Oliver	TEST 1 Project Intro		
6	20- March	11:30-12:30pm Andrews	Library resource intro	Selected readings	Lab 8: Teambuilding & Project Design
0		7-9pm Oliver	Seminar: Ethics in Research Project Start		
7	27- March			SPRING BREAK	
	3- April	11:30-12:30pm Andrews	Project Re-group	Selected readings – each	
8		7-9pm Oliver	Quiz 4 PRESENTATIONS	topic-specific journal articles or book readings	Lab 9: Mini- presentations on projects

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Name_____

9	10- April	Times to be announced and posted on Moodle Meet in project advisor's office	TUTORIALS	Selected readings – each group will have focused topic-specific journal articles or book readings	Lab 10: Journal Club	
	17-	11:30-12:30pm Andrews	Research Day Prep	arch Day Prep Selected readings – each		
10	April	7-9pm Oliver	PRESENTATIONS	topic-specific journal articles or book readings	Lab 11: Journal Club Presentations	
11	24- April	Times to be announced and posted on Moodle Meet in project advisor's office	TUTORIALS	Selected readings – each group will have focused topic-specific journal articles or book readings	Lab 12: Draft of research day presentation	
		11:30-12:30pm Andrews	Quiz 5 Research Day Prep	Selected readings – each		
12 1-May	7-9pm Oliver	PRESENTATIONS	topic-specific journal articles or book readings	Lab 13: Mini- presentation of full draft		
13	8-May	11:30-12:30pm Andrews 7-9pm Oliver	Research Day Prep Seminar: Neuroeconomics Lecture: Tying it all together Test Review	Selected readings	Lab 14: Edited presentation & materials	
	15- May	11:30-12:30pm Andrews	Quiz 6 Exam Review	_	Lab 15: Final	
		7-9pm Oliver	Set-up & Dress-rehearsal for Research Day		materials	
14	17- May		RESEARCH DAY - <u>REQUIRED</u> ATTENDANCE TO PRESENT FINAL PROJECTS			
15	22- May	7-10pm Oliver		FINAL EXAM		

Name_____

LAB: Scientific Methods of Experimentation

Objectives of this lab:

- 1. Review scientific methods.
- 2. Discuss heart rate (HR) and blood pressure (BP) as measures of neuroendocrine function.
- 3. Practice using each component of the scientific method in a simple experiment.
- 4. Apply methods to your specific group project.

Blood Pressure/Pulse Rate Experiment Report

GROUP_____

INTRODUCTION

What do you know about heart rates and blood pressures?

What do you know about exercise and/or stress?

FYEC MYTHBUSTERS
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Name				
-				

_

What problem do you seek to address?

What else led you to your hypothesis?

HYPOTHESIS

FYEC MYTHBUSTERS	Name	
©Catherine L. Franssen METHODS/EXPERIMENTAL DESIGN		
INDEPENDENT VARIABLE (IV)		
LEVELS OF IV		
DEPENDENT VARIABLE (DV)		
CONTROL VARIABLES		
CONFOUNDING VARIABLES		

OTHER NOTES:

Name_____

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RESULTS

	Baseline	Baseline	Baseline	Experimental	Experimental	Experimental
	Systolic	Diastolic	Heartrate	Systolic	Diastolic	Heartrate
Subject						
1						
Subject						
2						
~						
Subject						
3						
Cubicat						
Subject						
4						
Subject						
Jubjeet						
5						

Name_____

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RESULTS Average your data and draw a graph to summarize.

Name_____

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CONCLUSION

Did your results support your hypothesis?

Were your results what you expected? Why or Why not?

Are you happy with the design of the experiment? If you were to do this experiment over again, what would you change and/or include?

How does stress impact heart rate/blood pressure and what have you learned about your own response to stress?

Name_____

What does blood pressure and pulse rate tell you about your cardiovascular health?

If you could design another experiment to test stress effects on BP/HR (that might take longer, include more participants or materials) what other experiments would you like to do? Be creative!

NOW... DESIGN YOUR EXPERIMENT FOR YOUR CULMINATING PROJECT!

INTRODUCTION:

Include key points and questions. Bullet points are encouraged. Include references when available.

HYPOTHESIS

FYEC MYTHBUSTERS	Name	
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METHODS/EXPERIMENTAL DE	ESIGN	
INDEPENDENT VARIABLE (IV)		
LEVELS OF IV (if any)		
DEPENDENT VARIABLE (DV)		
CONTROL VARIABLES		
CONFOUNDING VARIABLES		
CONTOCIDING VARIABLES		

OTHER EXPERIMENTAL NOTES:

Name_____

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RESULTS (YOU MAY WISH TO CREATE A TABLE, GRAPHS, ETC.)

Name_____

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RESULTS (YOU MAY WISH TO CREATE A TABLE, GRAPHS, ETC.)

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CONCLUSION

What exactly did/will you find?

Name_____

Did/will your results support your hypothesis?

Were your results what you expected? Why or Why not?

Are you happy with the design of the experiment? If you were to do this experiment over again, what would you change and/or include?

Name_____

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PEER EVALUATION (WEEKLY UPDATE)

Please respond with a 4=always, 3=often, 2=sometimes, 1=rarely, 0=never

Write names:	Self	Teammate 1	Teammate 2	Teammate 3
Attended group meetings;				
stayed in contact with				
Was proposed for				
meetings: completed work				
on or ahead of time				
Completed all work				
assigned				
Helped keep the group				
focused on the task				
Respected others' ideas				
Contributed useful ideas				
Understood assignments				
and his/her role in group				
Contributed large				
quantity of work				
Contributed high quality				
WOFK Holped others with their				
work when needed				
Worked well with other				
group members				
		Below response	e is out of 100%	
What percentage do you				
think each member				
contributed to the overall				
written report(s)?				
What percentage do you				
think each member				
oral prosontation(s)?				
oral presentation(s)?				

Other notes:

BOOK CLUB BRAIN RULES by Ori John Medina

Chapters 2-3

- 1. Choose a group of 3-4 classmates. Go sit with them. Yes. Right now. Go.
- 2. Choose roles for this assignment.
 - a. The *recorder* is responsible for filling out the one worksheet/deliverable that will be handed in for the group.
 - b. *The reporter* will be responsible for reporting out your group's responses to the class as a whole.
 - c. *Remaining group member(s) will be researchers, responsible for supporting the other two roles.*
- 3. Complete the worksheet/deliverable. As you will be handing this in, but will have a quizzam on this material next week, it would be wise to complete a second copy to share with your group mates and study.

Name	Role	Notes

Group

FYEC	MYTHBUSTERS	Name	
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1.	Humans triumph over their environment not by becomin	ng	but by becoming
	·		
2.	According to Judy DeLoache, the one human trait that n	eally separates us f	from gorillas is:

_____. An example of this is:

3. Describe evolution through natural selection.

4. What's the Goldilocks Effect? Why is it important to the development of our brain?

5. What is Variability Selection Theory?

6. What's Medina talking about with his jazz analogy?

7. What were some of the consequences (good and bad) of bipedalism?

8. Who was Phineas Gage? What happened to him? What did we scientists learn from that?

9. Describe the three parts of the triune theory of the brain:

Name	Composition	Functions

10. What's the problem/challenge with giving birth while the baby's head is small enough to fit through the birth canal?

11. What is the Theory of Mind? How is it important to our survival?

12. Why might emotion be connected to learning? Is it possible that emotions are more important than we give them credit for?

13. Draw and label a neuron. Then connect that neuron to another, including a synapse. Label.

14. What research did Eric Kandel do that won him the Nobel Prize in 2000?

Name_____

15. The brain acts like a muscle: the more activity you do, the larger and more complex it can become. What's an example of this (from the book)?

16. What are times of major growth and pruning over the course of a human's life?

17. What might it mean that some people have a Jennifer Aniston neuron?

18. Are our brains completely different from one another? What's the same and what's different?

19. Who's Howard Gardener and what's his theory?

20. Who is George Ojemann and what has he discovered about the brain?

21. What are your thoughts about John Medina's ideas on education now that you know a bit more about the brain?

Name_____

Deliverable: Preliminary Research Proposal

For this assignment one preliminary proposal should be submitted per group. Detailed assignment instructions are given in class which more fully describe each of these components.

Deliverable Component	Points Possible	Points Earned
In-class activity: What, Why, How	5	
Completed on time	5	
Team members names and roles; Group identity (nickname, brand, theme song, etc)	5	
Four references	5	
What (Research Question)	10	
Why (Who cares? With References)	10	
How (Experimental Design)	10	
TOTAL	50	

Name_____

Deliverable: Final Oral Presentations (Fall Semester Mini-Project)

Give your classmates some feedback!! You will be responsible for having these feedback notes in your binder at the start of Spring semester. Rank the presentations (0=did not have; 1=needs serious improvement; 2= needs some improvement; 3= excellent) in the following categories and offer as many useful comments as you can.

Component	Points (0-3)	Comments
Creative, Innovative, Engaging, Attention- Grabbing		
Organization: Made sense, Good flow, Easy to understand		
Content: clear hypothesis and overarching question, good supporting research, logical conclusions		
Methods: easy to follow, logical, seem to answer the question		
Visual aids (Slides, video, etc.): Images support material, thoughtful layout, etc.		
Team members involved; good communication; voice, dress, etc.		

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Name_____

Research Day Presentation

Group Name	Date
Topic	
CONTENT: IN	NTRODUCTION (30pts) Background information on 1 st relevant topic (with 1 scholarly source) Background information on 2 nd relevant topic (with 1 scholarly source) Background information on 3 rd relevant topic (with 1 scholarly source) Clear outline of general problem based on background information Specific hypothesis
CONTENT: M	IETHODS & RESULTS (30pts) Clear descriptions of all Variables Clear descriptions of Procedures used Clear descriptions of Data collection and analysis Clear descriptions of Results 1 (must include graphs, tables, and/or other imagery) Clear descriptions of Results 2 (must include graphs, tables, and/or other imagery)
CONTENT: C	ONCLUSION (30pts) Discussion of results in light of hypothesis (did they support?) Discussion of expectations (were results what you expected, why or why not?) Discussion of outcomes relevant to background information (what did you learn?) Future directions (what's the next step or two, and why?) Bibliography or reference page (in-text citations expected)
ORGANIZAT	ION (30pts) Clear, engaging, informative title and title slide Length of presentation (10 minutes) Overall format and smooth transitions Set the context at the beginning and summarized at end Clear ending slide
LANGUAGE	& DELIVERY (30pts) Creative, innovative presentation; Used visual aids and examples effectively; Communication: verbal & nonverbal Clear demonstration of group identity Each group member clearly involved; roles clear
AESTHETICS	Group dress Presentation design OVERALL GRADE (out of 180 points)

Name_



Name_____



Name_







Name_



Name_



Running is a big question mark that's there each and every day. It asks you "Are you going to be a wimp or are you going to be strong today?"

Name__

FINAL EXAM

Your final exam will be to create a brief presentation, including an introduction and method on a given hypothesis. You will not give the oral accompaniment, just submit your slides (which should be self-explanatory).

- We will give you each a hypothesis to base your presentation around.
- You should adhere to presentation guidelines we've discussed in class; write accompanying notes in the "notes" section of each powerpoint slide to elaborate on any points from the slide.
- There is a **10 slide maximum** for this assignment
- Your exam period is 7-10pm Wednesday, May 22. You may work on this longer than 3 hours if you would like, and may begin as soon as you have your topic/hypothesis. This exam is due by email to both Dr. Franssen (catherinefranssen@rmc.edu) and Dr. Lowry (glowry@rmc.edu) no later than 10pm Wednesday, May 22. You may turn it in earlier if you would like.

The rubric for this assignment is as follows.

- _____ Clear, engaging, informative title and title slide (with theme running throughout presentation)
- _____ Background information on relevant topics (with at least 1 scholarly source and at least 3 total sources)
- _____ Clear outline of general problem based on background information
- _____ Specific hypothesis
- _____ Clear descriptions of all Variables and Procedures used
- _____ Clear descriptions of Data collection and analysis
- _____ Discussion of expected results (graphs and/or tables strongly encouraged)
- Conclusion- Discussion of expected results in context of background and hypothesis; Summary
- Bibliography or reference page (in-text citations expected) and a Clear ending slide
- _____ Creative, innovative presentation;

_____ OVERALL GRADE (out of 100 points)

Name____

List of Hypotheses to give students. Each student received only 1. Pseudo-random assignment of hypotheses to students.

- 1. People who regularly spend more time playing/exercising outside will have less long-term brain damage after a serious head injury.
- 2. Families of terminally ill children will be less stressed and better able to care for their patient after spending a week away an outdoor recreational camp.
- 3. College students who have more positive relationships will be less stressed and earn higher scores on final exams.
- 4. College students who participate in college-sponsored athletic teams are more cardiovascularly healthy and less stressed.
- 5. People generally respond better to rewards for desirable behaviors than punishments for undesirable behavior.
- 6. Taking a break from stressful work by stepping outdoors for a "breath of fresh air" or taking a short walk will increase productivity.
- 7. Playing background music while working on routine and repeatable tasks will improve productivity.
- 8. A person's ability to make high quality decisions depends upon the use of mathematical decision models.

Name_



Afte

Variables

Data Collection

Procedure

Background Information

Bibliography



Name_





Discussion

- Correct hypothesis
- Overall performance increased
- Stress is the number one productivity issue





- Rollin, McCraty. Mike Atkinson, and Dana Tomasino. "Impact of a Workplace Stress Reduction Program on Blood Pressure and Emotional Health in Hypertensive Employees." *The Journal of Alternative and Complementary Medicine*. 2003, 9:355-369. 22 May. 2013
- Spector, P.E. "Employee Control and Occupational Stress." Current Directions in Psychological Science 2002:133-136. 22 May. 2013.
- "The Effects of Negative Stress on Productivity." The Lee Group Search and Staffing Professionals 2012. 22 May. 2013.

