

FYS 100 "Scientific Modeling for Sport" JUDO

Final Exam, Fall, 2008

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This is a closed-book, closed-notes exam (even though you were shown it several days prior)

This exam has three parts. For promotion to USJA rank of ROKYU (yellow belt), you must pass the first two parts with a grade of 80% (i.e., 160 points out of a possible 200). Your FYS Exam Grade will be calculated from the two highest grades of the three sections.

PART ONE. DEMONSTRATIONS (each is worth 4 points – graded 0, 1, 2, 3, or 4)

4-1. NAGE WAZA (Throwing Techniques)

Demonstrate **AND VERBALIZE KUZUSHI AND THROW MECHANICS** for **FIVE** of the following throws (**AS SELECTED BY INSTRUCTOR**):

- | | |
|--|---|
| A. <input type="checkbox"/> DE ASHI HARAI | Advanced Foot Sweep |
| B. <input type="checkbox"/> HIZA GURUMA | Knee Wheel (<i>whirl</i>) |
| C. <input type="checkbox"/> UKI GOSHI | Floating Hip |
| D. <input type="checkbox"/> OSOTO GARI | Large(<i>major</i>) Outer Reap |
| E. <input type="checkbox"/> OGOSHI | Large(<i>major</i>) Hip |
| F. <input type="checkbox"/> OUCHI GARI | Large(<i>major</i>) Inner Reap |
| G. <input type="checkbox"/> KOUCHI GARI | Small(<i>minor</i>) Inner Reap |
| H. <input type="checkbox"/> OKURI ASHI HARAI | Sliding (<i>assisting</i>) Foot Sweep |
| I. <input type="checkbox"/> UTSURI GOSHI | Shift(transfer) Hip |
| J. <input type="checkbox"/> UKI OTOSHI | Floating Drop |
| K. <input type="checkbox"/> USHIRO GOSHI | Back(<i>rear</i>) Hip opponent |

MISC. THROWING SKILLS

4.2. Demonstrate **ONE** of your personal attacks (**AS SELECTED BY INSTRUCTOR**) against:

- 1) Opponent's left-front corner (with you having right-side sleeve and lapel grip)
- 2) Opponent's right-front corner (with you having right-side sleeve and lapel grip)

4.3. Demonstrate **ONE** of your personal attacks (**AS SELECTED BY INSTRUCTOR**) against:

- 1) As an opponent moves directly into you
- 2) As an opponent moves directly away from you

4.5. RENWAKU WAZA (Combination Techniques)

Demonstrate your **TWO** favorite attack combination throws.

- 1) 2)

4.8. BOGYO (Defense Against Throws)

Demonstrate **ONE** of the following defenses against a forward throwing attack (**AS SELECTED BY INSTRUCTOR**):

- 1) Defense against DE ASHI HARAI
- 2) Defense against OUCHI GARI

4.11. KAESHI-NO-WAZA (Counter Throw Techniques)

Demonstrate **ONE** of these counters (**AS SELECTED BY INSTRUCTOR**):

- | | |
|--|-----------------------------------|
| <i>Uke attacks with:</i> | ➔ <i>Tori (you) counter with:</i> |
| 1) <input type="checkbox"/> OSOTO GARI | ➔ OSOTO GAESHI |
| 2) <input type="checkbox"/> KOUCHI GARI | ➔ KOUCHI GAESHI |
| 3) <input type="checkbox"/> UKI or O GOSHI | ➔ UTSURI or USHIRO GOSHI |

KUMI KATA (Gripping Forms)

4.12. Demonstrate **ONE** of the following grip control maneuvers (**AS SELECTED BY INSTRUCTOR**) and a throw from it.

- 1) Standard sleeve and lapel grip
- 2) Double sleeve

4.13. **Demonstrate** swinging arm break against sleeve grip

4.14. OSAEKOMI WAZA (Holding Techniques)

Demonstrate **ALL THREE** of these holds:

- 1) KESA GATAME Scarf Hold
- 2) YOKOSHIHO GATAME Side Hold
- 3) KATA GATAME Shoulder Hold

4.15. SHIME WAZA (Strangulation Techniques)

NOTE: Although one strangulation hold is normally required by USJA, three (instead of the required one) Holding techniques of 4.14 have been substituted.

4.17, 4.19. HAIRI WAZA (Entry Techniques into Matwork)

Demonstrate **ONE** entry attack into matwork.

4.21. FUSEGI (Escapes from Matwork Attacks)

Demonstrate **ONE** escape against Kesa Gatame.

4.25. FREE AN ENTANGLED LEG (IN NEWAZA)

Demonstrate prying your leg free from having it entangled.

4.26. MISCELLANEOUS

Demonstrate **ALL SIX** of the following:

- | | |
|---|--|
| <input type="checkbox"/> 1) ZEMPO KAITEN UKEMI Front rolling fall | <input type="checkbox"/> 2) MA UKEMI Back fall |
| <input type="checkbox"/> 3) MAE UKEMI Front fall | <input type="checkbox"/> 4) YOKO UKEMI Side Fall |
| <input type="checkbox"/> 5) RITSU REI Standing bow | <input type="checkbox"/> 6) RANDORI Free practice (Or if you're injured, two more throws from 4.1) |

PART TWO. JAPANESE VOCABULARY

AND GENERAL INFORMATION

(1 point each) Fill in the Blanks (i.e., the English translation of each):

Throwing & Grappling Terminology	Throwing & Grappling Terminology	Categories of Techniques	Categories of Techniques
ASHI		ASHI waza	LEG THROWS
DE		ATEMI waza	STRIKES
ERI	COLLAR	KANETSU waza	ARMLOCKS
GARI		KOSHI waza	HIP THROWS
GATAME		NE waza	
GOSHI or KOSHI		OSAEKOMI waza	HOLDING
GURUMA		SHIME waza	STRANGLING
HADAKA	NAKED	SUTEMI waza	BACK & SIDE
HANE	SPRINGING	TACHI waza	
HARAI		TE waza	HAND
HISHIGI HIZA	ARM-KNEE		
HIZA		General Terminology	General Terminology
JIME	CHOKE	DOJO	
JUJI	CROSS	GI	
KAMI	UPPER	HAI / LIE	
KANI	SCISSORS	HAJIME	
KATA		HIDARI	LEFT
KATAHO	HALF	IPPON	
KESA		JUDO	GENTLE WAY
KO		JUDOKA	
KUZURE	MODIFIED	KAESHI	COUNTER
MAKIKOMI	Wrap around (winding)	KATA	
O		KESOKU	CONTINUE
OKURI		KI	INNER FORCE
OTOSHI		KIAI	SHOUT
RYOTE	BOTH HANDS	KIYOTSUKE	
SASAE	PROPPING	KOKA	
SHIHO		KUMIKATA	HOLDING
SODE	LAPEL	KUZUSHI	
SOTO		MA	BACKWARDS
SUMI	CORNER	MAE ukemi	FORWARD fall
TAI	BODY	MATTE	
TANI	VALLEY	MIGI	RIGHT
TAWARA	BAIL	REI	
TE	HAND	RENRAKU	COMBINATION
TOMOE	SUMMERSAULT (circle)	RONDORI	
TSUKIKOMI	POKING	SENSEI	
TSURIKOMI	LIFTING	SHIAI	
UCHI		TATAMI	
UKI		TORI	
UKEMI		UKE	
USHIRO		UCHI KOMI	
UTSURI		USHIRO ukemi	BACK fall
YOKO		WAZA	
ZEMPO KAITEN		WAZARI	
		YOKO ukemi	SIDE fall
		YUKO	

(1 point each) Fill in the Japanese for each:

Counting									
1	2	3	4	5	6	7	8	9	10

(1 points) 1. What is the name of your Elizabethtown College affiliated Judo Club in Manheim, PA?

(1 point) 2. What is the name of your National Judo organization?

(1 point) 3. What was unarmed combat called in Japan before judo?

(2 points each) Name three parts of **YOUR** body that can be hurt in Judo, and next to each say how you prevent these injuries while performing Rondori or competing in a Judo competition:

4.

5.

6.

(2 points each) Name three parts of **YOUR OPPONENT'S** body that can be hurt in Judo, and next to each say how **YOU** prevent these injuries while performing Rondori or competing in a Judo competition:

7.

8.

9.

(8 points) 10. Very briefly summarize the initial intentions of Jigoro Kano the founder of Judo for what Judo should be.

(2 points each) **WRITE NEXT TO EACH OF THE TEN RESPONSIBILITIES BELOW HOW YOU HAVE, OR ANTICIPATE TO, EXEMPLIFY EACH WITH RESPECT TO JUDO:**

The United State Judo Association (USJA) Code of Ethics:

"The USJA implores each member to exemplify the philosophy and discipline of Judo in every aspect of their life. Every Judoka must be intolerant of unethical behavior and act swiftly to eradicate it by using the established USJA Ethics Procedures. In this way, morality and integrity will remain the fabric of Judo's core. To be in compliance with the USJA Code of Ethics all members are to contribute to a positive and rewarding experience for all participants in Judo. This includes the following responsibilities:"

11. **Safety**

12. **Sportsmanship**

13. **Respect**

14. **Nondiscrimination**

15. **Honesty**

16. **Orderly Behavior**

17. **Loyalty**

18. **Lawful Conduct**

19. **Fairness**

20. **Proper use of influence of position**

PART THREE. RELATED PHYSICS

(60 points) 1) Sketch stick-figure Free Body Diagrams showing kuzushi and execution forces for each of the following:

H. KOUCHI GARI Small(*minor*) Inner Reap

I. OKURI ASHI HARAI Sliding (*assisting*) Foot Sweep

J. UTSURI GOSHI Shift(*transfer*) Hip

K. UKI OTOSHI Floating Drop

L. USHIRO GOSHI Back(*rear*) Hip

(5 points) 2) Describe in words the setup and execution physics of combining O-Uchi-Gari and Ko-Uchi-Gari one after the other repeatedly,

(5 points) 3) Describe in words and show equations for the physics of the two parts of a fall from a high place (i.e., the uniformly accelerated part and the Impulse part)

(5 points) 4) Describe in your own words and draw human sketches to explain the physics theory behind attempting to dampen a Judo fall.

(5 points) 5) Sketch graphs of the vertical ground reaction force of someone falling backwards when (1) stopping their fall with their hand; and (2) performing proper Ukemi.

(5 points) 6) Discuss with words what you have learned about "Plant Angle" for high-jump and long-jump

(5 points) 7) Sketch & label graphs of vertical ground reaction forces (include take-off AND landing) of ZEMPO KAITEN by diving over many people laying on mat

(5 points) 8) Sketch & label graphs of vertical ground reaction forces (include take-off AND landing) of ZEMPO KAITEN by diving over a person standing up

(5 points) 9) State Newton's three Laws of Motion.