Week 1

Intro to Quantitative Research

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Agenda

1. Introductions
2. Go over **syllabus**
3. Talk about **IRB certification**
4. Characteristics of **scientific research**
5. Projects for **mass media research**
6. Preview of **statistics**

Outline

Syllabus

IRB

Scientific research

Mass media research topics

Statistics

Instructor

- Mike Kearney, PhD
- Office: 314 Lee Hills Hall
- Hours: By appointment
- Email: kearneymw@missouri.edu
- Phone: (573) 884-0424

Texts

- Wimmer, R.D., & Dominick, J.R. (2011). *Mass media research: An introduction* (9th Ed.). Belmont, CA: Wadsworth.
- Grolemund, G. & Wickham, H. (2017). *R for Data Science*, First Edition. http://r4ds.had.co.nz/
- You should also stay abreast of research in your interest area by reading appropriate scholarly and professional journals

Requirements

- Weekly readings
- Methods course survey (due today)
- IRB certification (see: next slide)
- Homework assignments (R stats)
- Two exams
- Final paper (proposal)

Research paper

- The final paper is a research proposal
- It must include a **brief** summary of pertinent literature, identification of applicable theories, and a clear statement of the value of the study
- However, the primary emphasis will be on research design, methods, and plan of data analyses.

Research paper cont'd

- Topic is chosen by you, in consultation with me.
- Research question for your research paper (proposal) is due on the 6th week of class.
- Presentations a week before the last week of classes
- Final paper is due the last week of class

Grades

The following is a percentage breakdown of the grades in this course:

Assignment	Percent
Exam #1	25%
Exam #2	25%
Research paper	25%
Homework assignments	25%
Total	**100%**

Grading scale

This course uses a plus/minus grading scale.

Percent	Grade
93.4 - 100	A
90.0 - 93.3	A-
86.7 - 89.9	B+
83.4 - 86.6	B
80.0 - 83.3	B-
76.7 - 79.9	C+
73.4 - 76.6	C
70.0 - 73.3	C-
00.0 - 69.9	F

Final note on grades

- Percentages are exact
- I do not offer extra credit or give incompletes.
- If you have any questions or concerns about an assignment it is best to ask them before the assigned due date
- Late work is penalized by 10% [of the original assigned value] per 24 hours until it is submitted or ceases to be.

Schedule

Week	Date	Topic	W&D	G&W	Due
1	1/16	Intro to quant research	1,3		
2	1/23	Operationalization	2,4		
3	1/30	Survey research	3		
4	2/06	Experimental research	9		
5	2/13	Content/text analysis	6		
6	2/20	Intro to #rstats		1,4,6,8	RQ
7	2/27	Descriptive statistics	10	3,5,7	HW1
8	3/06	Chisquare and t-test	11,12		HW2
9	3/13	**Exam #1**			

Schedule cont'd

Week	Date	Topic	W&D	G&W	Due
10	3/20	Correlation and factors	12		HW3
11	3/27	**SPRING BREAK**			
12	4/03	General linear model		22-25	HW4
13	4/10	Advanced models	8		HW5
14	4/17	**Exam #2**			
15	4/24	Presentations			
16	5/01	**WORK DAY**			Paper

W&D = Wimmer, R.D., & Dominick, J.R. (2011). *Mass media research: An introduction* (9th Ed.).

G&W = Grolemund, G. & Wickham, H. (2017). *R for Data Science*, First Edition. http://r4ds.had.co.nz/

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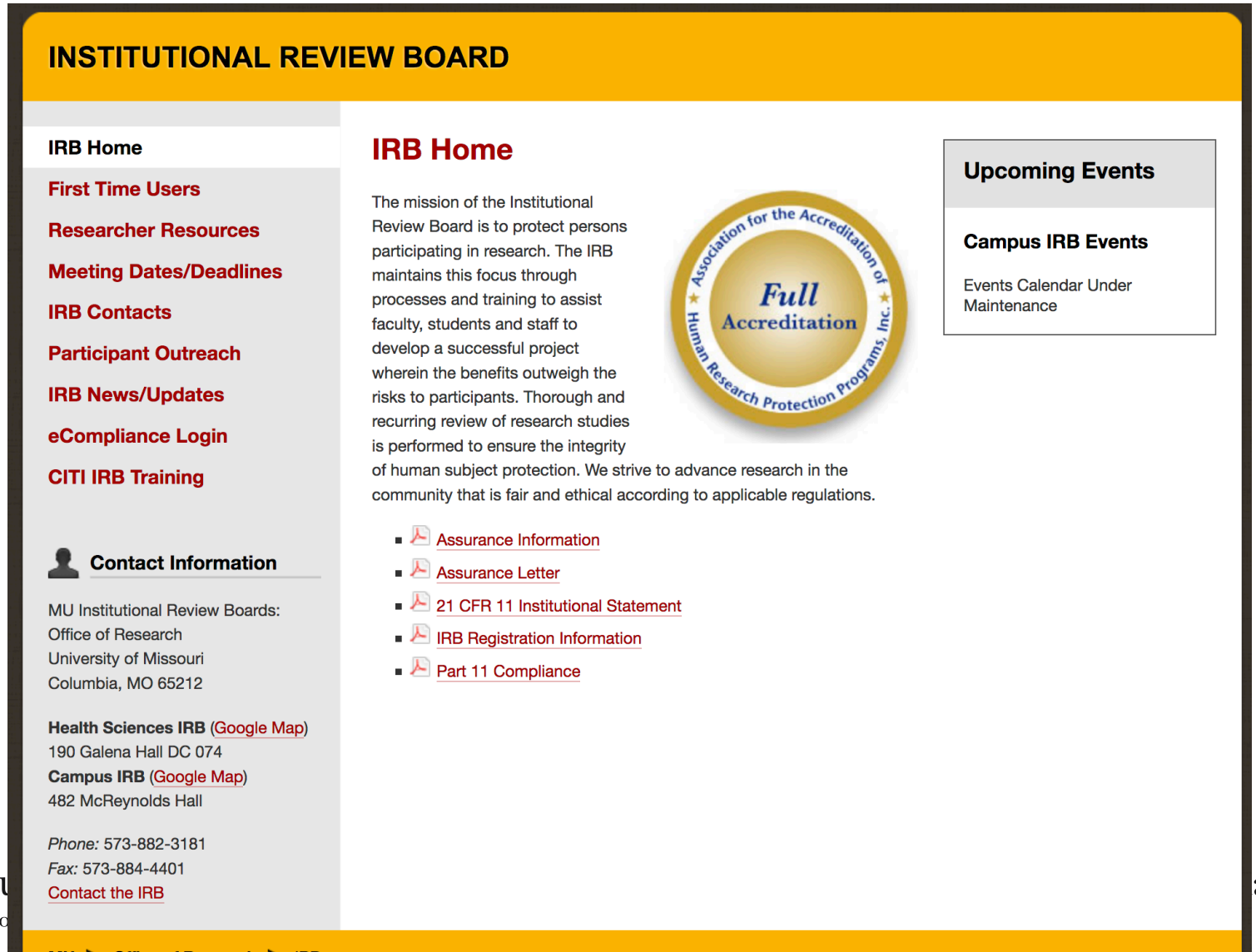
Institutional Review Board

- The first assignment in this course is to acquire IRB certification
- Mizzou IRB website: https://research.missouri.edu/irb/



IRB training

- To complete your training, login to ecompliance: https://ecompliance.missouri.edu/
- Click “Institutional Review Board”
- Under ‘Prequisites’ select “Take IRB training”
- Follow instructions (this may take multiple hours)
- Print out certification

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Research

- The text book defines **research** as

  an attempt to discover something.- Wimmer & Dominick, 2011, p. 2

Scientific research

- The text book defines **scientific research** as

  Scientific research is an organized, objective, controlled, qualitative or quantitative empirical analysis of one or more variables.- Wimmer & Dominick, 2011, p. 9

Methods of knowing

Four approaches to knowing: tenacity, intuition, authority, and science

- **Tenacity** - true because it always has been
- **Intuition** - true because it is self evidence
- **Authority** - true because qualified source says so
- **Scientific** - true because studies provisionally support it

Characteristics of the scientific method

Wimmer and Dominick describe the following five characteristics of the scientific method:

1. Scientific research is **public**
2. Science is **objective**
3. Science is **empirical**
4. Science is **systematic** and **cumulative**
5. Science is **predictive**

Characteristics of the scientific method

Here's another list of five characteristics from sciencing.com

1. Scientific research is **empirical**
2. Scientific research is **replicable**
3. Scientific research is **provisional**
4. Scientific research is **objective**
5. Scientific research is **systematic**

Theory

- The text book defines **theory** as

  a set of related propositions that presents a systematic view of phenomena by specifying relationships among concepts.- Wimmer & Dominick, 2011, p. 13

Measurements of objectivity

- **Validity** refers to **accuracy** of findings
- **Reliability** refers to **consistency** of findings

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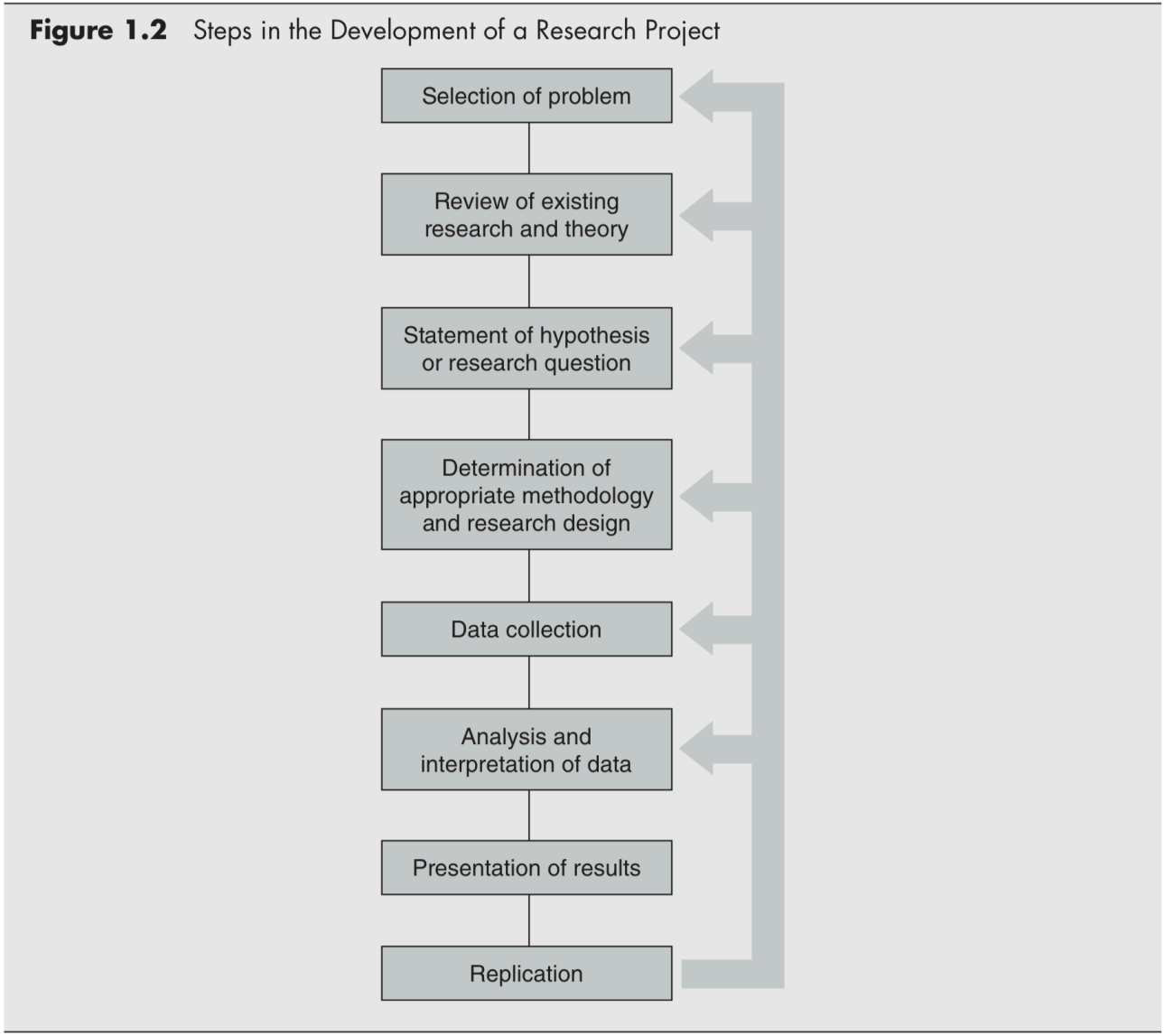
Mass media

- The text book defines **mass media** as

  any form of communication that simultaneously reaches a large number of people, including but not limited to radio, TV, newspapers, magazines, billboards, films, recordings, books, and the Internet.- Wimmer & Dominick, 2011, p. 2

Research process



Research phases

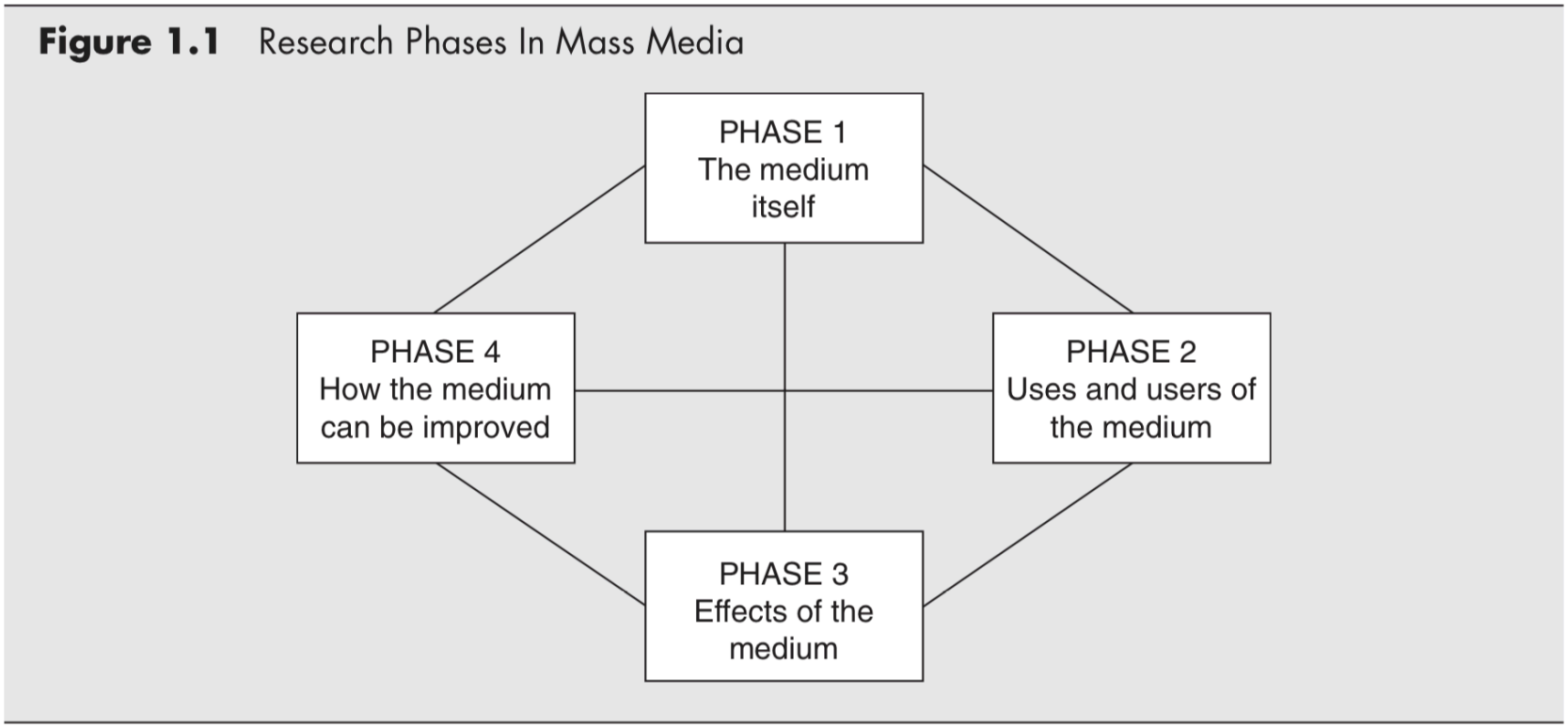


Figure 3

Outline

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Statistics we will cover

- Sampling/probability
- Descriptive statistics
- Inferential statistics
- Correlation/regression
- t-test/ANOVA
- Overview of advanced methods

Sampling

- What does the word **random** mean? Describe it using mathematical terms.

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