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## **GBB Team: Final Paper**

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**GBB Team**  
Lauren Harbath  
Elizabeth Rinkes  
Breanne Studor  
Mark Vance

Instructional Design  
University of Akron  
John R. Savery, Ph. D.

December 11, 2017

GBB Team is a group of four graduate students enrolled in the online instructional design course at the University of Akron. The team members are Lauren Harbath, Elizabeth Rinkes, Breanne Studor, and Mark Vance. The team members come from a variety of backgrounds and each member brings a unique set of skills. The team was approached by Dr. Rancer, our subject matter expert (SME), with an instructional problem to transition a traditional face to face class to an online format for his undergraduate students in the School of Communications. Dr. Rancer feels it will benefit students to offer an online option in addition to the traditional class setting.

### ***Analysis Phase***

The problem presented to the GBB Team is to find a way to communicate and educate important introductory concepts to the students in Dr. Rancer's course without using critical face to face instruction. The goal of the course is to help the undergraduate students understand how the communication processes and behaviors are studied using the social scientific techniques of observation and measurement. The goals the students are expected to accomplish throughout the course are:

1. Increase your understanding of, and interest in, the process of communication research.
2. Improve your ability to understand and critique communication research conducted by others.

3. Acquire the basic skills needed to conceptualize and conduct research concerning human communication using a variety of methods such as surveys, experiments, content analyses, and field research.
4. Understand how to enter and analyze data using a sophisticated statistical software program, *SPSS for Windows* (Statistical Package for the Social Sciences).

The team completed a needs analysis for the course to determine if an online avenue would be beneficial for the course and lesson objectives.

Problem	Cause	Solution	Goal
<ul style="list-style-type: none"> <li>✓ University needs to offer additional avenues to accommodate population growth</li> </ul>	<ul style="list-style-type: none"> <li>✓ Course is required for all undergraduate students in the School of Communication</li> </ul>	<ul style="list-style-type: none"> <li>✓ Transition course to online avenue to allow for additional enrollment</li> <li>✓ Administration needs to encourage students to sign up for the platform that best suits their individual needs (online or f2f)</li> </ul>	<ul style="list-style-type: none"> <li>✓ Create online platform based on existing content offered currently through face to face modules and objectives course</li> <li>✓ Create online dropbox for students to submit assignments</li> </ul>

The team would need to present multiple lessons for the online course, along with taking some of the existing activities that Dr. Rancer employs and translating them for the

online format. Dr. Rancer already had a complete set of PowerPoint Slides developed for the course that would need to be adapted for online delivery. Brightspace – the University supported learning management system - will be used to host instructional materials for the course.

While the learner analysis is a critical component of design, there was no need to survey the students in this case. This is because the intended audience is a ‘generic’ undergraduate class with an expected range of ages, gender, ethnicity, etc. There was no request from the Subject Matter Expert to customize the instruction to accommodate different learners.

### ***Design Phase***

GBB Team identified the instructional need: design and develop an online version of the Communication Research course taught by Dr. Rancer. The team will explain and provide examples of the foundation concepts through a module on Brightspace. There will be a variety of content offered through the Brightspace to accommodate the transition from a face to face course to an online only course. Most assignments and information will be provided to learners using Word Documents or through PowerPoint Presentations. However, there are also uploads of .pdf documents with additional information and detailed overviews will be offered through an html webpage link. In addition, there will be discussion board links to allow for interaction between online learners.

Each module will begin with an overview that clearly states the learning objectives, questions each student will be able to answer by the end of the module, and key

terminology. The module will provide links to the reading requirements, additional PowerPoints for enrichment, and discussion boards. If there is a writing assignment for the module, it will also be linked through the sub-topics. The following screenshot is an example of a module that includes these items. For specification of each module construction, see Appendix.

The screenshot displays a course management system interface. At the top, there is a navigation bar with links: Course Home, Course Materials, Assessments, Communication, and My Tools. Below this, a search bar labeled 'Search Topics' is visible. On the left side, a sidebar menu lists various course components with associated counts in orange boxes: Overview (41), Bookmarks, Course Schedule, Table of Contents (41), Introduction to the Course (1), Course Syllabus (1), Turning Point Clicker System Info (3), Module 1 - Understanding Communication Research (3), Module 2 - Meta-theoretical Considerations, Research Perspectives, and Research Paradigms (3), Module 3 - Research Questions and Hypotheses (3), and Module 4 - Understanding Variables (3).

The main content area is titled 'Module 6/7 (2 week module)- Experiments'. It includes a 'Print' button and a 'Settings' gear icon. Below the title, there are fields for 'Add dates and restrictions...' and 'Add a description...'. A 'Published' status is indicated. A toolbar contains buttons for 'Upload / Create', 'Existing Activities', and 'Bulk Edit'.

A list of activities is shown, each with a dropdown menu, an icon, a title, a file type, and a checkmark indicating completion status:

- Module 6/7 - Overview (Web Page) ✓
- CRM Final Old Chapter 11 New Chapter 12 (PowerPoint Presentation) ✓
- Skill Building Assignment #2 (Word Document) ✓
- Study Guide for Exam #2 - Fall 2017 (Word Document) ✓
- Exam #2 - Extra-Credit Question- Identifying Research Variables & Statistical Tests (Word Document) ✓
- Experimental Exercise (Discussion Topic) ✓

Below the activities list, a text prompt reads: 'Complete the following exercise and post your completed response in the discussion board. Respond to at least 2 peers.'

A bulleted list of instructions follows:

- Choose one of your Hs that is appropriate for an experiment.
- Go online and (try to) find at least one study that used an experiment to answer a similar H.
- Design an experiment for your H
  - Define your variables: Independent, Dependent
  - Determine your design
    - One Shot
    - Pre-Post
    - Within or Between Subjects
    - True or Quasi Experiment
    - Factorial Design
    - Field, Natural, or Laboratory

The course site in Brightspace is designed with a homepage that provides an index of instructional modules with brief descriptions and links to the module sections. After students are introduced to the site on the homepage, they will move through the sections in the order they appear on the homepage. Once students click on a section title, they are taken to a new page that clearly outlines the objectives for that module. The Brightspace is very easy to navigate and all pages are clearly titled to explain what information and learning goals they offer. A navigation bar with menus always remains on the left side of the page so students are always able to get back to the homepage or any other page they need to view. In addition, these links are also stationed across the top of every link they may click. As students complete an activity, the top of each page provides links to the previous page which makes it easy to navigate between the pages of the website. When students follow a link from the homepage, an arrow for the table of contents remains on the upper left hand side of the page to allow for easy navigation through the Brightspace course. All sections of the website are easily accessible and are geared towards students with a very basic background with online learning.

The conventions that are used on the Brightspace will be universal throughout each module that the students need to access for the resources. On each of the provided modules, the font will default to the heading and subheading of each particular portion of the module. The subject matter will appear in default font below the heading. The provided background for the rest of the page is white. The University of Akron logo will be at the top left of each Brightspace module. In addition, a running header next to the logo

will list the course name, "Communications Research," and will remain in place as long as the student navigates throughout the content for that course.

In order for students to navigate Brightspace, they must complete a system check to see if their browser is compatible. <https://brightspace.uakron.edu/d2l/systemCheck>

The critical system checks are JavaScript and cookies. The web browser must support JavaScript while cookies must be enabled on your browser. The non-critical system check are: Browser and Rich Content Editing. Your browser must fully be supported and must also support rich content editing. You will receive all check marks, as pictured below, as long as you meet the required general system settings for navigating Brightspace.

## System Check

The following checks ensure that your browser is properly configured to use the system.

✓ All checks passed!

### Critical System Checks

- ✓ JavaScript  
Pass - Your web browser supports JavaScript.
- ✓ Cookies  
Pass - Cookies are enabled in your browser.

### Non-critical System Checks

- ✓ Browser  
Pass - Your browser is fully supported.
- ✓ Rich Content Editing  
Pass - Your browser supports rich content editing.

### ***Development Phase***

Brightspace, as stated earlier, is the University supported learning management system and where the online course has been developed. Brightspace is currently used by all University of Akron students. The students would already have access to the course site to obtain grades and other course materials. Information on the course must be easily presented and accessed on the Brightspace page so the students can navigate quickly and easily. This will improve understanding of content for the online website as students will have a consistent path in which to follow for easy access of materials on a daily or weekly basis.

Our team decided that the accessibility of the Brightspace would be most beneficial in the module format rather than one tab of all chapter powerpoint links. This was to allow for clear organization for the students enrolled in the course. They will not need to “jump” in sections to find materials, rather they are receiving all the materials for that section of the course on one individual page. The powerpoints are easily accessible and open up through Brightspace and can even be downloaded for future access. This is consistent throughout all sixteen modules. In addition to class information/lessons on the Brightspace, there is also the availability of quizzes for the students to take to make sure that they are keeping up with and understanding everything that has been taught in the course. Our Subject Matter Expert did not request that these be created at this time. However, they are easily accessed through the quiz section of the website in a multimedia format when he decides to use this feature. Toward the end of the course, the students will be expected to complete a survey (as part of a lesson) created and distributed by



themselves that showcases their communication and technological skills that they have learned through the course. Results will be uploaded to the teacher through the assignments folder.

In determining the effectiveness of the design and materials, we thought it would be most beneficial to create a survey to receive feedback on the navigation, student satisfaction, and overall design of the course (survey located below in the evaluation phase). This will be uploaded to the course website for timely and immediate feedback that Dr. Rancer will be able to use to improve the course for future classes.

### ***Implementation Phase***

The implementation of the developed course outline was done by Dr. Savery, as he is more familiar with the logistics of the Brightspace platform. The revised course has not yet been taught with the target audience. It will be implemented based on Dr. Rancer's timeline. There were several challenges of the project implementation. First, the Subject Matter Expert did not intend to implement the course with an online format this semester. Second, several weeks of the modules need to include instruction videos in order for students to learn SPSS, which were not available at the time of implementation. Lastly, there is currently no format for the exams to be taken online but that will need to be added in order to deliver the course in an online format. Despite these challenges, the team was able to meet the goal transforming a face to face course into an online format for the majority of the course. The suggestions for future implementation are to add video instruction for the SPSS module weeks, add exams that can be taken in an online format via

Google Forms or a similar program, and additional training provided for the Subject Matter Expert on the logistics of Brightspace and the online classroom.

### ***Evaluation Phase***

Given the time constraints it was not possible to evaluate the impact of the instructional design. However, as a team we have developed an alternative method to evaluate the impact of the new course. In order to evaluate mastery in the content area and measure learning outcomes, Dr. Rancer would use his existing Final Exam. This would be given to the students at the completion of the course in order to evaluate content. However, to evaluate the navigation, student satisfaction, and overall design of the course, we decided a survey would be most beneficial. Through communication with our Subject Matter Expert, we have developed the following questions to be given.

Directions: On a scale of 1-5, please rate the following items about the online course you've completed this semester. 1 = "strongly disagree," 2 = "disagree," 3 = "neutral," 4 = "agree", and 5 = "strongly agree."	
Question #1	The Communication Research online course was interactive.
Question #2	The Communication Research online course was engaging.
Question #3	The Communication Research online course allowed me to connect with my classmates.
Question #4	The Communication Research online course allowed me to connect with my instructor when needed.
Question #5	The Communication Research online course was easy to navigate.
Question #6	The Communication Research online course modules were easy to understand and follow.
Question #7	The Communication Research online course included various activities to be enriching.

Question #8	The Communication Research online course helped me to understand material.
Question #9	The Communication Research online course modules were organized logically.
Question #10	I would recommend the Communication Research online course to other students.
	Do you have any additional comments to improve the course?

The students completing this survey will have taken the course in the new online platform. All students will take the survey in order to gain the most formative data. The survey is intended to evaluate the delivery of the course materials through the online platform. The data on the individual questions will allow Dr. Rancer after project completion to modify his course if needed based on the collected data. Due to time constraints, GBB Team will not be able to properly analyze data and it will be left to Dr. Rancer for his future courses. However, the survey will allow him to gain feedback from the students about his online course and navigation.

### ***Conclusion***

After discussing the requirements of the course, Communication Research, our development team made up of four graduate students, took a completely face-to-face course and worked to put the course on Brightspace so future classes would be able to take the course online due to increasing demand and course enrollment. We organized the content provided by Dr. Rancer into modules each consisting of course lessons through a powerpoint, as well as other multimedia materials. Materials can be easily uploaded

electronically through the assignments folder. Students will be able to have discussions on a frequent basis through the discussion board as well as easily communicate with other members of the class through the instant messaging or email. At the end of the course, the development team created a survey that students will take to rate various aspects of the course to improve for the future. All course materials and organization have been approved by Dr. Rancer. The Communication Research Brightspace is ready for future implementation.

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**GBB Team:  
APPENDIX**

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## Course Outline

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### Communication Research Course Outline

#### **Module 1 - Understanding Communication Research**

*1. Overview/Objective-* **To understand what communication research is and does.**

**Questions you should be able to answer following this Module:**

- How is research like being a detective?
  - Why do you study communication research methods?
  - What are the characteristics of research?
  - How is research knowledge distributed?
  - How do we “know” the things we know?
  - What’s wrong with everyday ways of knowing?
  - What do communication researchers, do?

Required Reading: Chapter 1 DPL

*2. PowerPoint CRM Final Chapter 1*

*3. Discussion Board Topic with posting requirements*

- Discussion board topic: Think about your ideas of Communication Research. What did you know about Communication Research before you read this chapter? What are your thoughts after reading this chapter? (Requirements: 1 initial post and 2 responses to peers.)

Module 2 - Meta-theoretical Considerations, Research Perspectives, and Research Paradigms

*1. Overview/Objective-* **To understand the goals and measures of Communication Scholars.**

**Questions you should be able to answer following this Module:**

- What are the Goals and Methods of Communication Scholars?
- How do the different research perspectives and paradigms fit with the different meta-theoretical considerations, types of research, and logical systems?
- What characterizes the different research perspectives and paradigms, metatheoretical considerations, types of research, and logical systems?
- Where do you think you fit?

Required Reading: Chapter 2 DPL

*2. PowerPoint CRM Final Chapter 2*

*3. Discussion Board Topic with posting requirements*

- *Explain your Epistemological Position.* (Requirements: 1 initial post and 2 responses to peers.)

Module 3- Research Questions and Hypotheses

**1. Overview/Objective- To understand the basic types of research questions and hypotheses.**

**Questions you should be able to answer following this Module:**

- What are the different types of research question?
- What are the different types of research hypotheses?
- What is a research hypothesis versus a null hypothesis?

Required Reading: Chapter 6 DPL

*2. PowerPoint CRM Final Chapter 6*

*3. Discussion Board Topic with posting requirements:*

- No discussion board topic this week due to Skill Building Assignment 1.

#### *4. Skill Building Assignment 1*

##### Module 4- Understanding Variables

**1. Overview/Objective- To understand the functions of variables, the relationships that occur between variables, and the process of measuring variables.**

**Questions you should be able to answer following this Module:**

- How are variables defined?
- How are variables measured?
- What are the 4 types of measurement?
- What are the common types of Interval scales?
- Understand variable dimensions.

Required Reading: Chapter 7 DPL

#### *2. PowerPoint CRM Final Chapter 7*

#### *3. Discussion Board Topic with posting requirements:*

##### Module 5- Ensuring Validity, Reliability, and Credibility

**1. Overview/Objective- To understand the functions of variables, the relationships that occur between variables, and the process of measuring variables.**

**Questions you should be able to answer following this Module:**

- How are variables defined?
- How are variables measured?
- What are the 4 types of measurement?



- What are the common types of Interval scales?
- Understand variable dimensions.

Required Reading: Chapter 7 DPL

*2. PowerPoint CRM Final Chapter 9*

*3. Discussion Board Topic with posting requirements:*

- No discussion board topic due to upcoming exam.

*4. Study Guide Exam 1*

*5. Extra Credit Question- Exam 1*

Module 6/7 (2 week module)- Experiments

**1. Overview/Objective- To understand quasi-experimental and experimental designs for Communication Research.**

**Questions you should be able to answer following this Module:**

- What are dependent and independent variables?
- What does the term “quasi” mean?
- Why use quasi-experimental designs?
- What is an experiment?
- Understand the principle of Max-Min-Con.
- What are Extraneous (Confounding) variables and why are they bad?
- What are threats to internal and external validity?
- What are the types of experimental design?

● What are Factorial Design Experiments?

● Understand the following terms:

- Experiments
- Placebo Group
- Placebo Effect
- Experimental Control
- Controlled Variable
- Control Group
- Treatment Group
- Comparison Group
- Attribute Variables

Required Reading: Chapter 11 DPL

*2. PowerPoint CRM Final Chapter 11/Chapter 12*

*3. Discussion Board Topic with posting requirements:*

Experiment Exercise: Complete the following exercise and post your completed response in the discussion board. Respond to at least 2 peers.

- Choose one of your Hs that is appropriate for an experiment.
- Go online and (try to) find at least one study that used an experiment to answer a similar H.
- Design an experiment for your H
  - Define your variables: Independent, Dependent
  - Determine your design
    - One Shot
    - Pre-Post
    - Within or Between Subjects
    - True or Quasi Experiment
    - Factorial Design
    - Field, Natural, or Laboratory

*4. Skill Building Assignment 2- What's wrong with this study?*

*5. Study Guide Exam 2*

*6. Exam #2- Extra Credit Question- Identifying Research Variables & Statistical Tests*

Module 8/9/10 (3 week module)- Descriptive and Inferential Statistics

*Overview/Objective-* **To understand data analysis and statistics.**

**Questions you should be able to answer following this Module:**

- What is data analysis?
- What are the 2 levels of statistics?
- What are inferential statistics?
- What are descriptive statistics?
- What is Mesokurtic?
- What are the measures of central tendency?
- What are measures of dispersion?
- What are the two types of errors in hypothesis testing?

Required Reading: Chapter 13 DPL

*2. PowerPoint CRM Final Chapter 13*

*3. Discussion Board Topic with posting requirements:*

- No discussion board topic due to upcoming exam.

*4. Study Guide 3*

Module 11/12/13 (3 week module)- SPSS for Windows

\*These modules will be face to face due to the interactive nature of these lessons.  
Eventually, these modules can move to an online format.

Module 14 - Survey Research

*Overview/Objective-* **To understand the various types of surveys.**

## Questions you should be able to answer following this Module:

### ● Terms

- Cohort Study
- Cross-Sectional Survey
- Evaluation Research
  - Summative Research
  - Formative Research
  - Needs Analysis
  - Organizational Feedback
- Funnel Format
- Interviews
- Inverted Funnel Format
- Longitudinal Survey Design
- Market Research
- Panel Study
- Political Polls
- Researcher- Administered Questionnaire
- Self-Administered Questionnaire
- Survey Design
- Trend Study
- Tunnel Format

Required Reading: Chapter 10 DPL

*2. PowerPoint CRM Final Chapter 10*

*3. Discussion Board Topic with posting requirements:*

- Survey Exercise: Choose one of your RQs or Hs that is appropriate for a survey methodology.
- For that RQ/H, choose one or more variables that are appropriate to measure using a survey methodology.
- Go online and (try to) find at least one measure or scale that will measure those variables.
- Write your own scale(s) as needed.
- Write a survey. Make sure you include informed consent information. Use the information in Chapter 10 on writing surveys
- Determine who you will administer it to.
- Administer it to 5 people.
- Post all 5 completed surveys. Respond to two peers.

## Module 15- Sampling

### *1. Overview/Objective-* **To understand sampling of the population.**

**Questions you should be able to answer following this Module:**

#### ● **Terms**

- Sampling frame
- Sampling methods
  - Random Sampling
  - Non-Random Sampling
  - TYPES of sampling methods
- Unit of analysis
- Response rate/Refusal rate
- Contact rate
- Cooperation rate
- Incidence
- Sample size
- Confidence level
- Margin of error
- Normal distribution
- Data Saturation
- Representation
- Statistical power

Required Reading: Chapter 8 DPL

### *2. PowerPoint CRM Final Chapter 8*

### *3. Discussion Board Topic with posting requirements:*

- No discussion board topic due to upcoming exam.

## Module 16- Content Analysis, Focus Group Research

### *1. Overview/Objective-* **To understand how to collect qualitative data.**

**Questions you should be able to answer following this Module:**

## ● Terms

- Observing (what, how, length)
- Types of observers (Levels of Participation)
- Mindful Observation
- Interviewing (what, how, who)
- Concept of Requisite Variety
- Evidence and Significance
- Field notes
- Scratch notes
- Types of interviews
- Types of questions
- Types of observation
- Co-constructed interview
- Focus groups, interactive focus group

Required Reading: Chapter 11 & 15 DPL (15 only pp. 361-369)

*2. PowerPoint CRM Final Chapter 15*

*3. Discussion Board Topic with posting requirements:*

- No discussion board topic due to upcoming exam.

*4. Study Guide 4*

## Online Course Screenshots

The screenshot displays a web browser window with the address <https://brightspace.uakron.edu/d2l/le/content/4218922/Home>. The page title is "Table of Contents - Communic...". The interface is divided into a left sidebar and a main content area.

**Left Sidebar (Table of Contents):**

- Module 8/9/10 (3 week module)- Descriptive and Inferential Statistics (3)
- Module 11/12/13 (3 week module)- SPSS for Windows (1)
- Module 14 - Survey Research (3)
- Module 15- Sampling (3)
- Module 16- Content Analysis, Focus Group Research (2)
- Course Extra-Credit Assignment (1)
- Exam Materials (1)
- Add a module...

**Main Content Area:**

**Module 1 - Understanding Communication Research**

- Upload / Create (dropdown) Existing Activities (dropdown)
- Module 1 - Overview (Web Page) ✓
- Introduction to Communications Research (PowerPoint Presentation) ✓
- Thinking about... (Discussion Topic) ✓

**Module 2 - Meta-theoretical Considerations, Research Perspectives, and Research Paradigms**

- Upload / Create (dropdown) Existing Activities (dropdown)
- Module 2 - Overview (Web Page) ✓
- CRM Final Chapter 2 (PowerPoint Presentation) ✓
- Epistemological Position (Discussion Topic) ✓

**Module 3 - Research Questions and Hypotheses**

- Upload / Create (dropdown) Existing Activities (dropdown)
- Module 3 - Overview (Web Page) ✓
- CRM Final Chapter 6 (PowerPoint Presentation) ✓
- Skill Building Assignment #1 (Word Document) ✓

Table of Contents - Communic X

Secure | <https://brightspace.uakron.edu/d2l/le/content/4218922/Home>

John

Module 8/9/10 (3 week module)- Descriptive and Inferential Statistics	
Upload / Create	Existing Activities
Module 8/9/10 - Overview	✓
CRM Final Chapter 13	✓
Study Guide for Exam#3 - Fall 2017	✓

Module 11/12/13 (3 week module)- SPSS for Windows	
Upload / Create	Existing Activities
Module 11/12/13 - Overview	✓

Module 14 - Survey Research	
Upload / Create	Existing Activities
Module 14 - Overview	✓
CRM Final Chapter 10	✓
Exercise	✓

Module 15- Sampling	
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Table of Contents - Communic X

Secure | <https://brightspace.uakron.edu/d2l/le/content/4218922/Home>

John

Communication Research - Development

Course Home Course Materials Assessments Communication My Tools

Search Topics

Overview

Bookmarks

Course Schedule

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Module 2 - Meta-theoretical Considerations, Research Perspectives, and Research Paradigms	3
Module 3- Research Questions and Hypotheses	3
Module 4- Understanding Variables	3
Module 5- Ensuring Validity, Reliability, and	4

Table of Contents

Import Course Bulk Edit Related Tools

Expand All Collapse All

Introduction to the Course	▶
Course Syllabus	▶
Turning Point Clicker System Info	▶
Module 1 - Understanding Communication Research	▶
Module 2 - Meta-theoretical Considerations, Research Perspectives, and Research Paradigms	▶
Module 3- Research Questions and Hypotheses	▶
Module 4- Understanding Variables	▶
Module 5- Ensuring Validity, Reliability, and Credibility	▶
Module 6/7 (2 week module)- Experiments	▶
Module 8/9/10 (3 week module)- Descriptive and Inferential Statistics	▶
Module 11/12/13 (3 week module)- SPSS for Windows	▶



The image displays two screenshots of a Brightspace LMS interface for a course titled "Communication Research - Development".

**Top Screenshot: Table of Contents Overview**

- Course Home:** Overview, Bookmarks, Course Schedule.
- Table of Contents:** A list of sections with item counts in orange boxes:
  - Introduction to the Course (1)
  - Course Syllabus (1)
  - Turning Point Clicker System Info (3)
  - Module 1 - Understanding Communication Research (3)
  - Module 2 - Meta-theoretical Considerations, Research Perspectives, and Research Paradigms (3)
  - Module 3- Research Questions and Hypotheses (3)
  - Module 4- Understanding Variables (3)
  - Module 5- Ensuring Validity, Reliability, and Credibility (4)
- Main Content Area:**
  - Introduction to the Course:** Includes "Welcome to Communications Research" (Word Document).
  - Course Syllabus:** Includes "c384 Comm Research Syllabus Fall 2017 7-31-17" (Word Document).
  - Turning Point Clicker System Info:** Includes "Student Turning Technologies Documentation" (Word Document) and "turning\_registration\_guide\_2017" (PDF document).

**Bottom Screenshot: Detailed View of Modules 4 and 5**

- Module 4- Understanding Variables:**
  - Module 4 - Overview (Web Page)
  - CRM Final Chapter 7 (PowerPoint Presentation)
  - TO BE DETERMINED (Discussion Topic)
- Module 5- Ensuring Validity, Reliability, and Credibility:**
  - Module 5 - Overview (Web Page)
  - CRM Final Chapter 9 (PowerPoint Presentation)
  - Study Guide for Exam #1 - Fall 2017 (Word Document)
  - Extra credit question for Exam #1 - Fall 2017 (Word Document)
- Module 6/7 (2 week module)- Experiments:**
  - Module 6/7 - Overview (Web Page)
  - CRM Final Old Chapter 11 New Chapter 12 (PowerPoint Presentation)