Part I: Page Setup

1. Use margins of 1 inch (2.54 cm) on all sides and a line length of no more than 6.5 in (16.51 cm). Using a flush left justification style (ragged right) (American Psychological Association, 2009, p. 229).

   - Use serif type face for text, tables, and figure captions, but use sans serif (e.g. Arial) for text within figures (APA, 2009, pp. 228-229; also see sample figure p. 53).

3. Double space all text, titles, table notes, and figure captions (APA, 2009, p. 229).
   - Tables and Figures can use single spacing (APA, 2009, p. 229).

4. A running head (APA, 2009, pp. 229-230), which is a shortened version of the title, should appear at the top of every page.
   - 50 character maximum (including letters, spaces, and punctuation) in all caps.
   - On the title page only, the running head should start with the words “Running head:” before the shortened title (see sample paper, p. 41).
   - Placement: the default setting of your word processor is acceptable, but ideally it would be half way between the top of the page and the first line of text.
   - Running head Alignment: Left Justified - aligned on the left hand side of the page.
   - Page Number: Follows header; aligned with right margin.

5. Title page: (APA, 2009, pp. 23-25, 229-230) -
   - Separate page, numbered page 1

1Much of the material in this guide is adapted from course materials developed by Dr. John Rosenkoetter (Southwest Missouri State University, 1992). I am indebted to John for teaching me how to write and think like a scientist.
b. Running head: and page number
   - On the title page only, type “Running head:” in front of the running head.

   For example:

   Running head: THIS IS MY RUNNING HEAD
   
   - Page Number: Follows header; aligned with right margin.

c. Paper title:
   - Located 1/4 of way down page.
   - Centered using upper and lower case letters.
   - No more than 12 words, states independent and dependent variables studied and/or central thesis.

d. Authors’ name and authors’ institutional affiliations.
   - centered below the title.

e. Author Note. For student papers please include the following:

   Manuscript submitted 7/7/09 to Dr. So-n-so in partial fulfillment of the requirements for PSYC ??? (Course Title goes Here).

Part II: Writing Style

1. Indent the first line of every paragraph using the Tab key set at 5 to 7 spaces or ½ inch (APA, 2009, p. 229).

   - Exceptions include the abstract, block quotes, titles, headings, table notes, and figure captions.

2. Spacing after punctuation (APA, 2009, pp. 87-88): There should be one space after punctuation including punctuation ending a sentence, commas, colons, semicolons, punctuation separating parts of a reference or citation, and after the periods separating the
initials in personal names (e.g., K. P. McCormick).

The exception is periods in abbreviations (e.g., i.e., U.S., B.F.D, etc.: APA, 2009, p. 87) and the colon in doi: numbers reported in references.


4. Spell out all numbers less than 10 and those that begin sentences (APA, 2009, pp.111-112), except when reporting measurements; statistics; numbers in the abstract; numbers in a figure or table; numbers representing time, dates, ages, scores, or points on a scale; and numbers that indicate a specific place in a series (e.g., Table 2 on page 3).

5. Do not divide words with a hyphen at the end of a line of text. Let the line run short or long (APA, 2009, p.229).

6. Use commas to separate elements in a series including and and or. For example, my three favorite statistics are correlations, t tests, and chi square (APA, 2009, pp. 88-89).

7. A term to be abbreviated must, on its first appearance, be spelled out completely and followed immediately by its abbreviation in parentheses (APA, 2009, p. 107), e.g., “studies of simple reaction time (RT) have shown....” Abbreviations in figures or tables must be explained in the figure caption, the table note, or table title (APA, 2009, p.107).

8. Quoting other sources is not allowed in this course. Usually, using quotes only demonstrates to your reader that you did not understand the material well enough to paraphrase it. When you can use quotes, remember to use them sparingly. They should be used only in cases where the quote says something that cannot be paraphrased without losing a crucial part of the meaning (e.g., literary quotes) or when interesting/important people say interesting/important things in interesting/important ways.
- When using quotes, include page numbers for the sources of all quotes (APA, 2009, pp. 170-171).
  

  b. The American Psychological Association (2009) says “you can do it this way too” (p. 170-171).

- If the quote is from an electronic source without page numbers, then refer to the paragraph number, e.g. (Garrison, 2009, para. 3). If the paragraph numbers are not visible in the document then cite the closest heading and the number of paragraphs away the quote is, e.g., (Garrison, 2009, “Twenty Reasons I Hate APA Style,” para. 2), (APA, 2009, pp. 171-172).

9. If a quote is more than 40 words long, then present it in a free standing paragraph indented .5 inches (1.3 cm, or about 5 spaces, generally one tab is fine). This is called a block quote. Do not indent the first line of the block. Omit the quotation marks but be sure to include the page number in parentheses after the quote (APA, 2009, pp. 92, 170-171)

- For example:

  Far out in the uncharted backwaters of the unfashionable end of the Western Spiral arm of the Galaxy lies a small unregarded yellow sun.

  Orbiting this at a distance of roughly ninety-eight million miles is an utterly insignificant little blue-green plant whose ape-descended life forms are so amazingly primitive that they still think digital watches are a pretty neat idea.

  (Adams, 1998, p. 5)
10. Citations are needed when you make a statement that might be challenged by another person; Provide citations for information that is not common knowledge. Citations should appear in parentheses and include the last name(s) of the author(s) (See APA, 2009, pp. 169, 174-179).

a. Parenthetical vs. in text citations – Parenthetical (cite goes in parentheses; use & not and). In text – author reported as part of the sentence and year presented in parentheses (use and not &).

b. One Author: (Garrison, 2002) every time the article is cited.

   Garrison (2002) every time the article is cited.

c. Two Authors: (Garrison & Hat, 2003) every time the article is cited.

   Garrison and Hat (2003) every time the article is cited.

d. Three to five Authors: (Garrison, Hat, & McKay, 2004) first time cited.


   (Garrison et al., 2004) each subsequent time cited.

   Garrison et al. (2004) each subsequent time cited.

e. Six or more Authors: (Garrison et al., 2004) every time the article is cited.

   Garrison et al., 2004) every time the article is cited.

f. If you cite more than one source in the same set of parentheses, then order them alphabetically as they would appear in the references (APA, 2009, pp. 177-178). For example, (Brathlowski, 2009; Cartman et al., 2005; McCorrmic & Marsh, 2004)

g. If there is no specific author listed, then list the organization name. For example, APA publication manual has no single author, cite as:

   -(American Psychological Association, 2009) first time cited
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Or American Psychology Association (2009) first time cited

-(APA, 2009) or APA (2009) every subsequent time cited, but only if abbreviated name is a commonly used group name; otherwise, use the full name every time.

11. Do not use contractions in these formal papers.

12. Do not use “I”, “my”, “we”, or “our” to refer to yourself. E.g. “I hypothesize…”, “My paper…”, “We expect …”, or “Our hypotheses are…” Rather, use statements like “It is hypothesized…”, “The present study…”, or “It is expected that….”

13. The word “affect” as a noun means “emotion” and as a verb means “to influence”.

Noun: When Mr. Hat is angry, he shows negative affect.

Verb: Cartman’s love of Cheezy Poofs may affect his judgement regarding snack food.

14. The word “effect,” as noun, means “result,” as a verb, means “to bring about, to accomplish.”

Noun: The effect of Kyle’s actions made Mr. Hat very angry.

Verb: Stan’s goal was to effect change in his relationship with Wendy Testaburger.

15. “In regards to….” or “With regards to…” are inappropriate. Use “In regard to….” “With regard to….” “Regarding ….”, or “As it regards…”

16. “I.e.,” means “That is” or “specifically;” use it when that which is being clarified can only mean one thing. “E.g.,” means “for example;” use it when that which is being clarified could mean a variety of things.

17. Since the word “correlation” is used in a specific way in psychology, use it only when reporting a correlation coefficient ($r$) or when referring to a correlational design, otherwise the words “association” or “associated” are preferred.

18. Do not say that “significance was found,” say that “a significant difference was found” or
“a significant association was found...”

19. Do not say that the hypothesis was “proven” to be correct. Say that the hypothesis was “supported.”

20. “Hypothesis” = one prediction, “Hypotheses” = multiple predictions
   “Analysis” = one statistical test, “Analyses” = multiple statistical tests

21. Read your report for typo’s, grammatical errors, and logical consistency.

**Part III: Organization**

The order for pages is (APA, 2009, pp. 229-230):

1. Title Page (Separate page, numbered page 1, APA, 2009, p. 229).

2. Author Notes (Goes on Title Page, APA, 2009, pp. 24-25).

3. **Abstract**: Starts on separate page. Title is centered and bold. Numbered page 2. Text is not indented and is presented in a single paragraph. There is a 150-250 word limit, depending on the journal to which you are submitting (APA, 2009, pp. 25-27, 229).

4. Sections of manuscript text (empirical journal article-single study)
   a. Introduction: start on new page (numbered page 3) with title centered at top (no bold and no author names; APA, 2009, p. 229). Do not label it Introduction.


   a1. Introduce general research question at a conceptual level. What are the variables of interest and how are they expected to be related.

   a2. Review literature: provide background and relevant studies that support logical need for the research question.

   a3. Critique literature: evaluate strengths and weaknesses of existing literature further supporting the need for the research question.
a4. Rational for present study: clearly state how the present study addresses the weaknesses of existing literature.

a5. Hypotheses: clearly identify the variables of interest, how they are operationalized and exactly how they are expected to be related.


   b1. **Participants**: Title is bold and flush left. Describe sample characteristics and how the sample was obtained. This section is called **Subjects** for animal studies.

   b2. **Measures**: Title is bold and flush left. Describe any questionnaires used. May also be called **Assessments**.

   b3. **Apparatus**: Title is bold and flush left. Describe any equipment (computers, animal mazes, instruments) used to collect scores.

   b4. **Procedures**: Title is bold and flush left. Describe the sequence of events that participants/subjects go through in the study.

   b5. **Data Analysis Plan**: Title is bold and flush left. Describe the analyses that will be conducted to screen data, describe the sample, and test the hypotheses of interest.


   c1. Descriptive Analyses – provide means and standard deviations for every variable. For composite scores provide reliability information (Cronbach’s Alpha)

   c2. Preliminary Analyses – report any preliminary analyses such association between demographic variables and main variables or tests related to
manipulation checks.

c3. Main Analyses – report all analyses used to test the study hypotheses.

d. Discussion and Conclusions: These sections may be presented separately or as a single section. Title with Discussion or Discussion and Conclusions (bold and centered: See Levels of Headings, pp.62-63).


d1. Review the hypotheses, results, and implications of the findings.

d2. Review the strengths and limitations of the present study.

d3. Discuss implications for future research and the how this study informs the larger issues at hand.

5. References: start on a new page, double space, use hanging indent (APA, 2009, pp. 37, 230), and titled with References (centered in bold).

6. Footnotes: list together, starting on a new page (APA, 2009, p. 51), and title the page Footnotes (centered, no bold).


Tables are numbered (e.g., Table 1, Table 2, Table 3; APA, 2009, p.127) and should have a title that has the major words capitalized. The title is italicized and both the title and table number are left justified (see APA, 2009, p.133). For full details examples see APA (2009) pages 129 to 150. However, note that these examples are not in APA format because they do not use a Serifed typeface (like Times New Roman). See the sample paper, page 52, for an example of a properly formatted table.

8. Figures: (APA, 2009, pp. 53, 230) Start each figure on a new page. Figure caption should appear on the same page as the figure. Figures are numbered (e.g., Figure 1., Figure 2.)
and the figure number is italicized. Figures should have a caption that appears below the figure and serves both as an explanation of the figure and as a figure title. Only the first word of each sentence in the caption is capitalized and the caption should not be indented (for details and examples see APA, 2009, pp. 53, 150-167); Also see Dr. Aspelmeier’s example paper).

9. Appendixes: start each Appendix on a new page (APA, 2009, pp. 38-40, 230). If you have one appendix item them the title it Appendix (centered and no bold). If you have multiple items, then use separate appendices titled Appendix A, Appendix B, and so forth (APA, 2009, p.29). Each appendix should have a title that is centered below the word “Appendix,” where the first letter of major words is capitalized (APA, 2009, p. 39; Dr. Aspelmeier’s example paper).

**Part IV: Tips for Major Sections**

1. The abstract must be complete by itself, i.e., no tables, figures, etc. (APA, 2009, pp. 25-27, 229).

3. Integrate your literature review; do not order your review in a study-by-study list. Approach it topic by topic and cite all of the articles relevant to that topic.

4. Describe procedures carefully, do not rush through your description, be detailed, read your description and ask yourself if it really happened that way. (Remember that someone should be able to replicate your experiment using your description).

5. Give the name for all statistical tests. For example, Pearson’s product moment correlation coefficient, simple linear regression, 2 x 2 factorial ANOVA, one-way ANOVA, independent samples t-test.

6. When reporting results for common statistical tests you should include exact significance
levels (exact $p$ value) out to three digits when necessary for values less than .10, unless the value is less than .001 then report $p < .001$ (APA, 2009, pp. 32-33, 113-114, 116-117).

7. Effect sizes should be reported for common statistical tests (APA, 2009, pp. 32-34, 116-117). See Appendix for some common effect size formulas.

8. Here are some examples of how to report results (APA 2009, pp. 32-34, 116-124; examples appear on pp. 46-47).
   a. $M = 8.05$ ($M = \text{sample mean}$)
   b. $SD = 2.51$ ($SD = \text{sample standard deviation}$)
   c. $t(22) = 2.36, p = .028, d = .67.$
      If non significant then: $t(22) = 0.55, p = .59, d = .32, \text{ns.}$
   d. $F(1, 78) = 7.18, p < .001, \eta^2 = .16.$
      If non significant then: $F(2, 78) = 1.18, p = .31, \eta^2 = .03, \text{ns.}$
   e. $r(22) = -.45, p = .014.$
      If non significant then: $r(22) = -.12, p = .30, \text{ns.}$
   f. $Y = 0.02X + 3.6$
   g. $\beta = -.45, SE = 1.13, t(20) = -2.58, p = .018.$
      If non significant: $\beta = -.12, SE = 1.13, t(20) = -.66, p = .51, \text{ns.}$
   h. $R^2 = .40, F(3, 20) = 4.35, p = .016.$
   h. $\chi^2(4, N = 90) = 10.51, p = .03, \Phi_{\text{Cramer}} = .24.$
      If non significant then: $\chi^2(4, N = 90) = 1.51, p > .82, \Phi_{\text{Cramer}} = .01, \text{ns, .}$

9. APA “strongly recommends” (p. 34) including Confidence intervals for effect sizes in reported results were possible (APA 2009, pp. 32-34, 116-124; examples appear on pp.
However, deriving these values lies well outside the scope of most introductory methods and statistics courses and they will not be used in this course.

10. You must refer to tables and figures in the text (i.e., the Introduction, Methods, Results, or Discussion sections).

11. If tables or figures present results, they should be described in the results section.

Part V: References

A. General Rules

1. All articles, books, etc. that are cited in the report must be listed in the Reference section in Alphabetical order (APA, 2009, pp. 180-183). All items listed in the Reference section must be cited in the report (APA, 2009, p. 180).

2. References use a hanging indent. The second line is indented, but the first line is not. Your word processor should have a hanging indent option in the paragraph settings.

3. The References follow these formats (APA, 2009, pp. 183-192, 193-224). Note that all references use what is called a Hanging Indent. That is, the first line of the reference is not indented, but all subsequent lines for that citation is indented.

4. Book titles, chapter titles, and article titles only capitalize the first letter of the first word. Subsequent words are not capitalized unless they are proper nouns or they follow major punctuation like a colon (:). For example, in an article reference the title would appear as follows:

A student guide to the writing in APA style: Exercises in self abuse.

5. If more than eight authors, then list all authors up to and including the sixth author insert three ellipses and add the final authors name (APA, 2001, p. 198). For example: Garison, M. R., McKay, M. R., Hat, M., Marsh, S. P., McCormick, K. P., Carman, E. C., ...
Brathlowski, K. J. (2009).

6. DOIs: Digital Object Identifiers are unique codes assigned to printed material that mark its location on the internet. APA recommends that DOIs be included whenever they are available, regardless of whether you accessed the material via the internet. Typically the DOI is printed on the first page of the article or book you are citing. You can also find the DOI in PsycINFO.

B. References for Periodicals (journal)

1. Periodicals with page numbers that do not start with 1 after the first issue (e.g. issue 2 starts with page 150): 


The information appearing after the “*Title of Periodical,*” is “Volume #, first page # - last page #” Notice that the title of the periodical, the comma that follows, the volume number, and the comma that follows are all italicized, but the page numbers are not. Finally, notice that doi is not capitalized and there is no space between the colon after doi and the beginning of the doi number.

2. Periodicals with page numbers that start with 1 for each issue:


Note: the information appearing after the “*Title of Periodical,*” is “Volume #(issue

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2 A careful inspection of the examples in the APA manual will reveal a great deal of inconsistency regarding the use of italics with commas after journal names and volume numbers. The format that is presented here reflects the examples posted in the APA website and the conventions established in the 4th and 5th editions.
C. Referencing Whole Books.


D. Referencing Chapters from edited Books.


E. Other Reference Issues.

1. In cases where there is not a single author or editor, then cite the organization that produced the document. e.g. The APA Publication manual should be cited as:


2. If there is no identifiable author or organization, then the author is listed as Anonymous. However, it would be a good idea to avoid citing such materials all together, especially in undergraduate writing.

4. For Magazine and Newspaper articles, see the APA guide (p. 200). Though essentially you just add the month and date (for newspaper only); no abbreviation, to the publication year. E.g. (1998, January 15). Also, be sure to list all the pages the article appears on even if they are discontinuous. E.g., *The Washington Post*, pp. A1, A2, A5-A6. This indicates that part of the article appeared on page A1 and A2, and then was continued on
A5 and ran over to A6.


Other citing rules for electronic material

   a. If the DOI number is available then use the standard format and report the DOI

   b. If the information on the site is subject to change—like a wiki—then include
   the retrieval date.

   c. If the information is a document on the Internet, provide the Internet address for
   the document at the end of the retrieval statement.

   d. Use “available from” to indicate that the URL leads to information on how to
   obtain the cited material, rather than the material itself.

   e. Use a period at the end of the retrieval statement unless it ends with a web
   address.
Appendix

Effect Size Formulas for Common Statistics

Effect Sizes are standardized estimates of the amount of influence that one variable has on another variable. There are two basic families of effect size. One family (the $d$ family) is based on the difference between group means and other family (the $r$ family) is based on the correlation between sets of scores.

A. Cohen’s $d$ quantifies effect size as the distance between two means in standard deviation units.

Single Sample and repeated measures $t$:

$$d = \frac{t}{\sqrt{df}}$$

Independent sample $t$:

When sample sizes are equal (or must be assumed to be)

$$d = \frac{2t}{\sqrt{df}}$$

For unequal sample sizes

$$d = \frac{t(n_1 + n_2)}{\sqrt{df \sqrt{n_1 n_2}}}$$

B. The $r$ family quantifies effect size as the ratio of variance in one variable (or set of variables) that is predicted by another variable (or set of variables) relative to the total amount of variance for all variables involved. Squaring correlation coefficients converts the effect size to a percentage: the percent variance accounted for (or predicted) relative to the total variance.

1. Effect Size for ANOVA: $\eta^2$ (eta squared) is a squared correlation used to represent effect size for ANOVA. If you have access to the full ANOVA table then you can use following formula:

$$\eta^2 = \frac{SS_{between groups}}{SS_{total}}$$

If you only have access to $F$ values and degrees of freedom, you can use the following formula:

$$\eta^2 = \frac{F(df_{between})}{(F(df_{between}) + (df_{within})}$$

If you take your values from a factorial ANOVA (e.g., 2 x 2 ANOVA) then the calculated values will represent partial eta squared $\eta_p^2$.

2. Effect Size for Chi-Squared: Cramer’s $\Phi$ (Phi) or Cramer’s $V$ is a correlation coefficient use to represent the association between two categorical variables.

$$\phi = \sqrt{\frac{X^2}{N(K-1)}}$$