

**UNIVERSITY OF SOUTH ALABAMA
COLLEGE OF ALLIED HEALTH PROFESSIONS
DEPARTMENT OF CARDIORESPIRATORY CARE**

CRC 450/CRC 451 Clinical Research Courses I-II 3 semester hours (1+2)

DESCRIPTION: In these courses, students will design and perform a research project, relating to clinical practice, education, or management. The work involved in this course will extend through two successive semesters.

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COURSE CONTENT: Module I: Research Project
 Module II: Research Poster Presentation

GOALS: The purpose of these courses is to have the student conduct scientific research. The final written assignment is intended to reflect a degree of grammar and writing skills commensurate with the student's level of education. The student will also present the project as a poster.

OBJECTIVES: Students will be able to:

1. identify a problem.
2. state a hypothesis or research question.
3. perform a literature search and literature review.
4. write and implement an appropriate research methodology
5. formulate all aspects of the research project into a style consistent with scientific format and writing.
6. prepare their investigation in a format suitable for publication.
7. present their project in a suitable poster presentation.

EVALUATION: see evaluation criteria

450: Proposal & IRB approval:	100% (no later than end of semester)
451: 1) poster presentation:	40%
2) final research paper:	60%

Successful completion of these courses is defined as a minimum average of 70% of the total course requirements.

Poster presentations will be evaluated based upon the general appearance of the poster (according to the standards in the research book/handout), the presence of all appropriate sections, the usefulness and descriptiveness of art, graphs, or tables, and the significance of the results on practice. Extra credit will be offered for the use of descriptive or inferential statistics. A poster evaluation form will be distributed.

REFERENCES:

Ebook (Blessing & Forister and Chatburn)

Blessing & Forister, Introduction to Research and Medical Literature, 4th ed. Jones & Bartlett, 2016.

Howlett H, Rogo E, Shelton TG. Evidence-Based Practice for Health Professionals. Jones and Bartlett 2014.

Chatburn. Handbook for Health Care Research, 2nd ed., 2011.

Manuscript Preparation Guide. Respiratory Care Journal: <http://rc.rcjournal.com/> author information tab

Texts, manuals, journals, medical professionals, etc., deemed necessary by the student and faculty advisor.

OFFICE HOURS:

You are required to consult with the instructors whenever they are in their offices and not busy with another person. Feel free to make an appointment if you desire. See the attached schedule for submitting drafts, etc.

CLASS ATTENDANCE:

Regular classes are not scheduled. You are to work independently with your faculty advisor as often as needed to prepare your senior project paper and poster. See the attached schedule.

ELECTRONIC DEVICES:

Cell phones and other communications devices are not to be used during class. Text messaging, Skyping, and cell phone photography are not permitted. Turn your cell phone off or to silent. You may make a voice recording of a lecture.

STUDENTS WITH DISABILITIES:

In accordance with the Americans with Disabilities Act, students with bona fide disabilities will be offered reasonable accommodation. The Office of Special Student Services (OSSS) will certify a disability and advise faculty members of reasonable accommodations. If you have a specific disability that qualifies you for academic accommodations, please notify me and provide certification from Disability Services in the Office of Special Student Services. The Office of Special Student Services is located in Room 270 of the Student Center (460-7212).

CHANGES IN COURSE REQUIREMENTS

Since all classes do not progress at the same rate, thus course requirements might have to be modified as circumstances dictate. You will be given written notice if the course requirements change.

ACADEMIC DISRUPTION

The University of South Alabama's policy regarding Academic Disruption is found in The Lowdown, the student handbook.

<http://www.southalabama.edu/lowdown/academicdisruption.shtml>: Disruptive academic behavior is defined as individual or group conduct that interrupts or interferes with any educational activity or environment, infringes upon the rights and privileges of others, results in or threatens the destruction of property and/or is otherwise prejudicial to the maintenance of order in an academic environment. We expect students to be cordial, courteous and respectful of faculty members and fellow students.

STUDENT ACADEMIC CONDUCT POLICY

The University of South Alabama's policy regarding Student Academic Conduct Policy is found in The Lowdown <http://www.southalabama.edu/lowdown/academicconductpolicy.shtml>: The University of South Alabama is a community of scholars in which the ideals of freedom of inquiry, freedom of thought, freedom of expression, and freedom of the individual are sustained. The University is committed to supporting the exercise of any right guaranteed to individuals by the Constitution and the Code of Alabama and to educating students relative to their responsibilities.

Student violating these standards may be asked to leave.

- Students enrolled in online courses are expected to adhere to the Academic Conduct Policy. In particular, students are expected to complete their own coursework and not provide unauthorized information or materials to another student.

ONLINE WRITING SUPPORT

The University of South Alabama provides online writing tutoring services through SMARTHINKING, an online tutoring service. SMARTHINKING is available at <http://services.smarthinking.com>. Students may enter the site by logging on with their Jag number and using the last four digits of the social security number as the password. For log-on problems, technical questions and/or on-campus writing assistance, contact the USA Writing Center at 251-460-6480 or e-mail csaint-paul@usouthal.edu.

- Information about the University Writing Center and Online Writing Lab can be found online at <http://www.southalabama.edu/univlib/instruction/antiplagiarism/writinghelp.html>.

Counseling and Testing Services

Counseling and Testing Services provides a variety of free and confidential services for students. For further information regarding this resource go to www.southalabama.edu/counseling or call the office at 460-7051.

To the student:

Chances are you have never undertaken a project such as that set forth in these courses. If you have not, your feelings of apprehension and lack of direction are understood. Those of you who have completed a paper or research project know that the task is not overwhelming or insurmountable.

What you must do yourself immediately is to place this course into perspective. You are students. You have a more narrow knowledge base compared to someone who, for example, completed his education three years ago and has been working in a clinical setting ever since. Certainly, you are not expected to delve as deeply, or to perform at the same level as someone such as that. Your experiences in respiratory therapy and cardiovascular technology are limited.

However, you are expected to pursue a substantive topic or project. Keep in mind that a number of respiratory therapeutic interventions and cardiovascular diagnostic procedures do not have a well-defined scientific basis. Additionally, at this point in your education, you should have developed some special area(s) of interest. Beginning at this point should be strongly considered.

You must submit a problem statement and select a faculty advisor for this course by the date indicated on the CRC 415 syllabus. You must submit an acceptable research proposal and IRB approval (if applicable) by the end of the fall Semester, to proceed with data gathering and as an additional criterion to graduate at the end of spring semester.

The faculty member whom you select should be one with whom you feel comfortable working. Your faculty advisor is to be a resource person for you, that is, help you focus in on a topic, inform you of other sources of information, etc. Your faculty advisor will serve as a guide for you throughout the duration of your project. You may consult additional faculty and staff resources, as needed.

As you work toward the completion of your project, you will be submitting various revisions and drafts to your advisor. The purpose of this exercise is 1) to help you organize your written material, 2) to assist you in developing a quality writing style, and 3) to enhance your use of grammar and proper spelling.

Essentially, though, it is you who is ultimately responsible for the outcome. Therefore, it is recommended that you begin your work as soon as possible. You will have, at least, two successive academic semesters to complete the requirements for this course. Use all the time you have. Do not procrastinate. Waiting to begin when the spring semester starts may be too late and risks delaying graduation. You will need all the time that is available to you (1) to decide on a project, (2) to perform a literature search, (3) to submit rough drafts of your work, (4) to collect data, and (5) to submit your completed work.

A timetable has been established for your work, see below. Adhering to the timetable is paramount and along with the quality of the finished product, determines your grades. It will serve to segment your work and make it much more manageable. Otherwise, you may find yourself getting behind and ultimately, overwhelmed. Just continue working at a steady pace.

Guidelines for Senior Projects CRC 450 - 451

You will likely exchange drafts with your advisor by email attachment. You and your advisor should save drafts in a folder. Date everything you submit and identify the submission with your name.

Step 1. Problem and hypothesis Due September 11, 2017

- a. Discuss your ideas with your advisor during the summer. Then present a written concept of your problem and hypothesis in a paragraph or two.
Note: Type (double spaced) all material to accommodate editing comments.
- b. Begin literature search and build your bibliography pages as you find applicable and/or appropriate material to include. Use Respiratory Care (RC) Journal format for each reference. See: <http://rc.rcjournal.com/content/author-guidelines>
- c. If you need Institutional Review Board (IRB) approval, you must have a certificate of completion for the “Human Subjects Protection Education Program” found on the National Institutes of Health (NIH) website (<https://phrp.nihtraining.com/users/login.php>). If you are going to do research at a hospital, you must also have additional HIPPA training: <https://phrp.nihtraining.com/users/login.php> Take both these courses, save a PDF of your certificates and paste them into the IRBnet website when you are asked to append your application documents.
- d. IRB approval takes time. Start early!
- e. NOTICE: *If you do not meet with your advisor frequently for this project, you risk getting an F on this project. A grade of F will PREVENT OR DELAY YOUR GRADUATION. Show your work often, ask questions, and keep your advisor informed.*

Step 2. Proposal: Introduction, Methodology, Literature Review Due October 9, 2017

- a. Type (double spaced) the introduction, methodology, and literature review and submit for review.
This assignment includes:
 - an introduction to include a statement of the problem/topic you want to solve or investigate and
 - a hypothesis or research question
 - a detailed methodology
 - a literature review (including a formal bibliography and brief summary of each article as it applies to your research. The literature review will become the basis of your discussion section.
- b. **IRB approval must be completed by the end of the Fall semester, if applicable.** See IRBnet website for forms: <https://www.irbnet.org/release/index.html> **Do not begin your IRB application until your proposal is approved by your advisor.** Submit a copy of the IRB approval to your adviser. Again, IRB approval takes time; do it early!
- c. Begin your research project (GATHERING DATA) once Steps 2a and 2b have been reviewed by your advisor. If your project requires IRB approval, this must be obtained before data gathering begins.
- d. Anytime you enter a hospital to conduct research, you must check-in with the supervisor of the respiratory department; he/she must know of your presence and purpose for being in the hospital. You must dress appropriately and wear your name badge.

THE FALL SEMESTER GRADE WILL BE DETERMINED BY THE EVIDENCE OF COMPLETING STEPS 1 AND 2 IN THE MANNER DESCRIBED.

Step 3. Results Preliminary Results Due January 26, 2018, Final Results Due March 2, 2018

- a. Perform your project according to the methodology you proposed for gathering your data. If you need to make changes in your methodology, have it approved by your advisor (an IRB if applicable) before gathering data.
- b. Write a Results section and submit it for review. Include tables and graphs (as appropriate) that are well-labeled, using RC Journal as an example. Make this work complete and neat. Excel is a good tool to create tables and graphs.

Step 4. Discussion and Conclusion Due April 6, 2018

- a. Write a Discussion section, integrating your work with that of others. This section incorporates the information from your literature review. Begin with a brief statement of the results of your study. Discuss the significance and relevance of what you found. Write the conclusions of the study based on your results and submit both sections for review.
- b. The more drafts reviewed by your advisor, the better chance you have at making an A on the paper and poster.

Step 5. Draft of Entire Paper Due April 18, 2018

Poster for Display Due April 18, 2018

Faculty Evaluation and Poster Presentation to Juniors April 18, 2018

Final Paper Submission April 25, 2018

- a. Make final changes to your paper, as suggested by your advisor. Be sure all verbs are PAST tense. For example; instead of, “We will be testing...,” you should say, “We tested...”

Your final paper must contain the following headings in the text (as in Respiratory Care Journal see: <http://rc.rcjournal.com/content/author-guidelines>):

- A. Title and authors (include your advisor)
- B. Abstract
- C. Introduction
- D. Methodology
- E. Results
- F. Discussion
- G. Conclusions
- H. References
- I. Appendices
- J. Acknowledgements

Note: Embed tables, charts, figures, and/or illustrations in the text. Be sure to refer to them in the text and make sure tables and figures have legends and that they are in the same format as indicated in the Respiratory Care Journal.

Poster Presentations

POSTER LAYOUT & DISPLAY

- X Use bulletin board size (usually 3' x 4').
- X Display will be on table or counter, and - should be free-standing.
- X Create in modular form to ease handling.
- X Information follows same format as article (except references are not included).
- X Do NOT create a gawdy-looking poster. You are not displaying a high-school science project. Create a professional-looking poster.

PLANNING THE POSTER

- X Sketch how the poster might look (use examples from class and previous students).
- X Decide on length and content of text.
- X Use the following headings for the presentation: **Title, Authors (you and your advisor), “University of South Alabama”, Abstract, Introduction, Methodology, Results, Discussion/Conclusion**
- X About 50% of the poster should be figures and tables. Label these with a designation and title according to the RC Journal format. (For example: Figure 1, or Table 1)
- X All figures, graphs, and tables should be well-labeled and completely explained either in a legend according to the RC Journal format.
- X Use a clean, well-done illustration to help explain any equipment set-up. Describe the equipment and set-up and any adjustments you have made in your methodology.
- X After the poster planning layout is approved, assemble all elements and format the poster as advised. Check the appearance of the poster for balance, symmetry, and quality before gluing the components.

POSTER MATERIALS

- X Use poster display board. Mount text paragraphs and figures/tables on colored backing
- X Lettering should be printed by a computer/printer. NO LETTERING BY HAND.
- X All print should be readable from 2-3 feet. Refine text to give the essence. Don't be “wordy”. Use 16 font or better to make the text readable from 2-3 feet away.

POSTER GRADES are based on these items

1. General appearance (from poor = 5 to excellent = 10)
2. Presence of essential elements (title, abstract, introduction, etc. Each counts 1.6 points)
3. Clarity and readability of elements (from unreadable/confusing = 5 to excellent = 10)
4. Utility of art/graphs/tables/visuals (from none = 5 to outstanding = 10)
5. Potential importance/value of the findings on some aspect of practice (from none = 5 to considerable potential impact = 10)
6. Free of errors, typos, misspellings, etc. (from careless = 5 to no errors noted = 10)
7. Statistical analysis gives extra credit; none adds 0 pts, descriptive adds 3 pts (mean, standard deviation, etc.), inferential adds 6 pts (chi-square, ANOVA, *t*-tests, etc.)
8. Presentation (be present for questions as your work is reviewed). Wear professional attire; we will be taking pictures

The total possible points awarded for the poster is 60 plus any extra credit points.

Evaluation Criteria - Tentative Due dates

*Advisor Suggested Check-off Ratings:

A = on time and good quality (little or no revisions needed)

B = on time and acceptable quality (minor revisions needed)

C = on time and poor quality (major revisions needed)

D = not submitted by due date

F = submitted more than one week past due date

Step	Semester	Due Date <i>on or before</i>	Notes	*Advisor Check Off Rating
Step 1. Problems and Hypothesis	Fall	9/11/2017 (Friday)		
Step 2. Proposal: Introduction, Methodology, Literature Review	Fall	10/9/2017 (Monday)		
Step 3. IRB Approval	Fall	12/1/2017 (Friday)		
Step 4. Research Implementation and Data Collection	Fall/Spring	Starting from approval by advisor and IRBs	Must submit weekly written updates of research and data collection	
Step 5. Preliminary Results	Spring	1/26/2018		
Step 6. Results	Spring	3/2/2018 (Friday)		
Step 7. Discussion and Conclusion	Spring	4/6/2018/2017 (Friday)		
Step 8. Paper Submission	Spring	Draft of entire paper 4/18/2018 (Friday)	Advisor may request one or more revisions	
Step 9. Poster Display & presentation	Spring	4/18/2018 (Friday)		
Step 11. Final Paper Submission	Spring	4/25/2018 (Friday)		