

University of South Alabama  
Department of Cardiorespiratory Care  
CRC 446 Cardiopulmonary Education Practicum  
Spring Semester 2018

Course Information

Monday and Friday 10:30 am to 12:30 pm (March 15 and 22, 2018 - 8:00 am to 5:00 pm)

Course format: reading assignment, worksheet, discussion, individual readiness test (iRAT), team readiness test (tRAT), presentation, final exam.

Faculty Information

David Chang, EdD, RRT-NPS 251-445-9289 (office)

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Hours: M, T, W and Th 1 pm to 3 pm; other days and times are available by appointment.

Course Description

CRC 446 Cardiopulmonary Education Practicum covers the learning theory and practice of respiratory therapy education. The following teaching experiences will be covered in this course: didactic instruction, laboratory instruction, patient education, online instruction, exam item construction, and evaluation instruments for different teaching settings.

Course Objectives

At the end of this course, the students should be able to:

- define and differentiate three primary learning domains;
- define and develop learning objectives for each learning domain; design an instructional plan for lecture and hands-on procedure;
- develop and present a short lecture;
- develop and present a hands-on procedure;
- define and differentiate validity and reliability;
- develop an evaluation instrument for the lecture and laboratory presentations;
- describe the roles of CoARC, NBRC, ASRC (Alabama Society) in RT education and credentialing.

Prerequisites and corequisites: See USA catalog.

## Required Textbook and Materials

1. Computer and internet accessibility
2. Printer
3. Library reference sources
4. Additional reading assignments (TBA)

## Outlines

1. Professional organizations and RT education
2. Learning domains (Bloom's taxonomy) and learning objectives
3. Passive learning, active learning and learning resources (Test 1 covers 1,2,3)
4. Instructional design for classroom teaching
5. Instructional design for laboratory/clinical instruction
6. Instructional design for patient education (Test 2 covers 4,5,6)
7. Evaluation of 3 learning domains (cognitive, psychomotor, affective)
8. Validity and reliability of evaluation instruments
9. Setting minimal passing score (cut score) (Test 3 covers 7,8,9)
10. Personality types and learning styles
11. Reading level assessment and application
12. Short- and long-term memories (Test 4 covers 10,11,12)

## Required Reading (The reading assignments may change depending on the availability of the online resources below)

1. Professional organizations and RT education

<http://www.aarc.org/>

<https://www.nbrc.org/>

<http://www.coarc.com/>

<http://cobgrte.org/>

<http://www.asbrt.alabama.gov/>

2. Learning domains (Bloom's taxonomy) and learning objectives

Learning domains

<http://academic.udayton.edu/health/syllabi/health/unit01/lesson01b.htm>

Learning objectives

<https://www.cmu.edu/teaching/designteach/design/learningobjectives.html>

<http://teaching.uncc.edu/learning-resources/articles-books/best-practice/goals-objectives/developing-objectives>

3. Passive learning, active learning and fair use provision

Passive vs active learning

<http://www.csun.edu/science/ref/pedagogy/active-passive/active-passive-learning.html>

Teaching Strategies Promoting Active Learning in Healthcare Education

<http://www.scientificjournals.org/journals2007/articles/1025.htm>

Fair use provision

<http://fairuse.stanford.edu/overview/fair-use/>

#### 4. Instructional design for classroom teaching

Instructional design models

<http://www.instructionaldesign.org/models/index.html>

(Review and compare these 3 instructional design models: ASSURE, Dick and Carey, and Kemp Design Model)

<https://teachingcommons.stanford.edu/resources/teaching-resources> (Review the 4 links on the right column of page and the resources under each link. The 4 links are: planning your approach, teaching strategies, student-teacher communication, and small groups and discussions)

#### 5. Instructional design for laboratory/clinical teaching

Laboratory Teaching [http://trc.virginia.edu/wp-content/uploads/2013/08/Teaching\\_Labs.pdf](http://trc.virginia.edu/wp-content/uploads/2013/08/Teaching_Labs.pdf) Clinical competency checklist <http://www.med.und.edu/medical-laboratory-science/files/mls-mayo-cohort-clinical-competency-checklist.pdf>

Performance Evaluation: Review the “performance evaluation form” on p. 153-154 of *Basic Clinical Lab Competencies for Respiratory Care: An Integrated Approach*, 5th edition

#### 6. Instructional design for patient education

Patient Education Materials

<http://www.upmc.com/healthAtoZ/patienteducation/Pages/patiented.aspx>

Non-Verbal Communication

<https://www.andrews.edu/~tidwell/bsad560/NonVerbal.html>

Health Literacy

<http://nmlm.gov/outreach/consumer/hlthlit.html>

#### 7. Evaluation of 3 learning domains (cognitive, psychomotor, affective)

Assessing Knowledge

<https://facultyinnovate.utexas.edu/teaching/prepare/future-instructors/assessment/knowledge>

Assessment of Psychomotor Objectives

<http://archive.tlt.psu.edu/learningdesign/grading/psychomotor.html>

Affective Assessment

[http://www.aafcs.org/res/Essential\\_Tools/Using\\_Surveys\\_and\\_Affective\\_Assessment\\_in\\_FCSE.pdf](http://www.aafcs.org/res/Essential_Tools/Using_Surveys_and_Affective_Assessment_in_FCSE.pdf)

#### 8. Validity and reliability of evaluation instruments

Writing Guide: Reliability and Validity <http://writing.colostate.edu/guides/research/relval/>

(review links on right column of page)

#### 9. Setting minimal passing score (cut score)

Calculating cut score for a multiple-choice exam: Review p. 282-284 of *Respiratory Care Calculations*, 3rd edition

#### 10. Personality types and learning styles

Score Your Personality Type <http://humanmetrics.com/cgi-win/JTypes2.asp>

Learning Styles <http://www2.gsu.edu/~dschjb/wwwmbti.html>

Learning Styles Questionnaires <http://www.engr.ncsu.edu/learningstyles/ilsweb.html>

## 11. Reading level assessment and application

Flesch Kincaid Formula

<http://www.readabilityformulas.com/flesch-grade-level-readability-formula.php>

Flesch Reading Ease Formula

<http://www.readabilityformulas.com/flesch-reading-ease-readability-formula.php>

What is the readability of your writing sample?

[https://www.online-utility.org/english/readability\\_test\\_and\\_improve.jsp](https://www.online-utility.org/english/readability_test_and_improve.jsp)

## 12. Short- and long-term memories

<http://www.stellarleadership.com/docs/Approach%20to%20Learning/articles/Making%20Memories%20Stick.pdf>

### Evaluations

#### 1. Four unit tests (40%) [individual and team readiness assessment tests (iRAT and tRAT)]

*(Note: Each student must earn an iRAT score of at least 60% to be eligible to keep the tRAT score for each respective unit test. If the student earns an iRAT score below 60%, the same iRAT score will be used for the respective student's tRAT score.)*

#### 2. Senior presentation (20%) - The presentation must include a short lecture and one hands-on procedure related to the lecture topic. Details of the presentation are as follows. A 5% deduction will apply to the senior presentation grade if the procedures and timeline outlined below are not followed.

*Each senior RT student will provide one lecture/hands-on presentation to junior RT students. The faculty will assign one topic from three topics proposed by the senior. The faculty will also schedule all presentations.*

*The lecture topic may or may not be related to respiratory care. The presentation must be between 30 to 40 minutes in duration (not including audio or video recordings prepared by others (such as youtube.com). In addition, the duration of presentation does not include setting up equipment and supplies nor providing the question and answer period at the end of the presentation.*

*Each senior RT student shall provide 3 topics in a prioritized order (lecture and hands-on procedure). These proposed topics must be submitted in writing (**hard copy only, no emails**) on or before Friday February 9, 2018. The completed "Lecture and Hands-on Presentation" form must be submitted on or before Friday March 2, 2018. All hard copies must have your complete name on the cover page and all other pages if the document is not stapled together.*

*The power point slides, if used, must be provided to the faculty (via email as an attachment) one week before the scheduled presentation.*

#### 3. Comprehensive final exam (40%)

Schedule for Presentations: 8:00 am to 5:00 pm on Thursdays (March 15 and March 22).

March 15 – Hannan, David, Kevin, Christian, La'Trice, Darrian, and Cartisha.

March 22 – Von, Lindsey, Melissa, Janae, Heather, Kendra, and Samantha.

Each senior RT student is required to attend all other presentations between 8:00 am and 5:00 pm on his/her scheduled date of presentation. Absence, tardiness or incomplete attendance will drop the student's presentation score by 10% for *each* senior presentation.

### Grading

1. Four unit tests (40%) - (iRAT 20%, tRAT 20%)
2. Written plan and delivery of presentation (20%)
3. Final Exam (40%) iRAT only

No make-up unit tests are provided. If the unit test is missed, the final exam grade will be used to substitute for the missing unit test grade and to compute the course grade. If the final exam is missed due to an excused absence, a make-up final exam may be taken at the discretion of the faculty. An excused absence is granted in cases such as documented illness of self (not family members) or jury duty of self.

Attendance, tardiness, failure to turn in assignments in a timely manner, and other unacceptable classroom etiquette (eating or drinking, activation of cell phone, pager or similar sound-producing device in class) will be recorded and become part of your student file. These attributes and behaviors will be reported to your future prospective employers as part of the reference request.

## **Important Notes**

### ***Changes in Course Requirements***

- Not all classes 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 need to be changed.

### ***Academic Disruption Policy***

- 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.*

- *Students are expected to be cordial, courteous and respectful of faculty members and fellow students.*
  - Cell phones, pagers, handheld electronic devices, laptops, watches, videotaping and other electronic devices may not be used without permission by the faculty.

Only enrolled students are permitted to be in the classroom. Classroom door may be locked after starting time. Students should prepare and allow ample time for travel and parking on campus. Any academic misconduct or disruption will be reported to the Department Chair or the Dean of Students. You must become familiar with the pertinent information in the current *USA Undergraduate and Graduate Bulletin*, specifically the university calendar and the academic policies and procedures.

If the student must miss a class due to illness or unforeseen conditions, it is the responsibility of the student to make arrangements for class notes, handouts, and assignments. Feel free to call the faculty for help as early as feasible. Do not wait until the last minute to get help.

### ***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.*
- Describe the penalty that student may incur if they violate these standards in your class.
- 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.

- Policy on plagiarism software.

Students may learn about the meaning of plagiarism and how to avoid it at the following link: <http://www.southalabama.edu/univlib/instruction/plagiarismforstudents.html>.

### *Students With Disabilities*

- In accordance with the Americans with Disabilities Act, students with bona fide disabilities will be afforded reasonable accommodations. 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 the instructor/professor and provide certification from the Office of Special Student Services. OSSS is located at 5828 Old Shell Road at Jaguar Drive, (251-460-7212).

## **Additional Requirements and Recommendations**

### *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 251-460-6283.
- Information about the University Writing Center and Online Writing Lab can be found online at <http://www.southalabama.edu/writing/>

### *Testing*

- The following course policy is in addition to the overall CRC department policy.
- During testing, books, workbooks, notes, internet access, calculators and other electronic devices are not allowed. Personal computer must be used for online testing only. Students must make prior arrangements to have a personal computer and provide prompt access to the internet in the CRC classroom and laboratory in the Health Professions (HAHN) Building. Exams (tests, quizzes) will be proctored. Tardiness or delay in turning in the exam will each result in a deduction of 10% of your earned test grade. For excused tardy that is documented (e.g., medical appointment, traffic ticket), each minute of tardiness will cause deduction of 1% of your earned test grade. For excused absence that is documented (e.g., jury duty, medical appointment), make-up exam and the exam format are at the discretion of the instructor and it must be taken within 3 days of returning to school.

**EXAMPLE**

**USE TEMPLATE ON LAST PAGE FOR YOUR WORK**

University of South Alabama  
Cardiorespiratory Care Program  
CRC 446 Cardiorespiratory Care Education  
Spring Semester \_\_\_\_\_

Lecture and Laboratory Presentation

Use this form as a working template. A completed hard copy of this form and all attachments must be submitted on or before \_\_\_\_\_

1. Presenter's name: \_\_\_\_\_

2. Presenter's email & phone number: \_\_\_\_\_

3. Topic of presentation: Nicotine Addiction

4. Learning objectives (at least 3):

After the presentation, the student will be able to:

1. Identify smoking facts & risk factors
2. List and identify physiological effects of tobacco smoke
3. Recognize the significance of early intervention and ultimately quitting
4. Identify current management strategies for smoking cessation

5. Lecture outline:

A. Smoking Epidemic/Crisis

1. Smoking Population
2. Mortality & Morbidity (life expectancy)

B. Smoking Facts

1. Cigarette Contents
2. Cost

C. Physiological Effects of Tobacco Smoke

1. Heart, Lungs, & other Critical Organs
2. Diabetes
3. Wound Healing & Circulatory System

D. Current & Future Treatment Implementation

1. How to Quit & Identifying Candidates
2. Treatment Modalities (old vs. new methods)

6. Laboratory outline:

See #8 description

7. Evaluation instrument for lecture presentation (attach a copy):

10 question quiz; must acquire a score of 70% to pass.

8. Evaluation instrument for laboratory presentation (attach a copy):

I am going to conduct a hands-on/visual "nicotine experiment" & "Video".



Purpose: Simulate increased vasoconstriction, HR, and HTN due to tobacco smoke and nicotine.

Equipment:

- Small C-clamp (nicotine acting on blood vessels)
- Bicycle Pump (heart pumping)
- Air (blood flow)
- Bicycle Pump hose (blood vessel)
- Bicycle Pump PSI gauge (changes in blood pressure)

Procedure:

A selected volunteer will pump the bicycle pump and I will tighten the C-clamp (nicotine) on the pump hose. As the clamp tightens, it will get harder to pump. Instruct volunteer to pump several repetitions continuously against the constricted orifice of the hose.

Video:

Students/Audience will watch a video demonstrating tar in cigarettes:

Movie clip is about 5 minutes and has already been downloaded for power point presentation.

<https://www.youtube.com/watch?v=pAbOFFpEoAo>

University of South Alabama  
Cardiorespiratory Care Program  
CRC 446 Cardiorespiratory Care Education  
Spring Semester 2018

Full Name \_\_\_\_\_ Phone \_\_\_\_\_

USA email address \_\_\_\_\_

Due Dates for (A): On or before February 9, 2018

Due Dates for (B): On or before March 2, 2018

**(A) Proposed Topics for Lecture and Hands-on Procedure (must provide 3 topics) (Due February 9)**

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**(B) Lecture and Laboratory Presentation (Due March 2)**

Use this form as a working template. A completed hard copy (no emails) of this form and all attachments must be submitted on or before March 2, 2018.

1. Presenter's name:
2. Presenter's email & phone number:
3. Topic of presentation:
4. Learning objectives (at least 3):
5. Lecture outline:
6. Laboratory outline:
7. Equipment and supplies to be used:
8. Step-by-step procedure:
9. Evaluation instrument for lecture presentation (attach a copy):
10. Evaluation instrument for laboratory presentation (attach a copy):
11. References used to prepare this presentation.