

**Cystic Fibrosis Elective**  
**PHAR 7232**  
Fall Semester 2021

**Course Description**

This course provides an in-depth review of cystic fibrosis (CF) evidence-based medicine.

**Additional Course Information**

Students will follow a progressive patient case from birth through adolescence and develop plans accordingly to address CF self-care, pharmacotherapy, pulmonary exacerbations, related complications, and common patient barriers to care.

**Course Credit**

2 credit hours

**Pre-Requisites**

PHAR 7481 and PHAR 7582

**Class Meeting Days, Time & Location**

**Monday 9:00 am – 12:00 pm (every other week)**

W.T. Brookshire Hall - Room WTB 234

**Course Coordinator**

Rachel A. Bratteli, Pharm.D., BCACP

W.T. Brookshire Hall Room 250

Phone number: 903-566-6165

Email: rbratteli@uttyler.edu

Office hours: Friday 9:00 - 12:00 pm or by appointment

Preferred method of contact: Email

**Fisch College of Pharmacy (FCOP) and UT Tyler Policies**

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This is part 1 of the syllabus. Part 2 contains UT Tyler and the FCOP course policies and procedures.

These are available as a PDF at <https://www.uttyler.edu/pharmacy/academic-affairs/>. For experiential courses (i.e., IPPE and/or APPE), the Experiential Manual contains additional policies and instructions that supplement the Syllabus Part 1 and 2. Please note, the experiential manual may contain policies with different deadlines and/or instructions. The manual should be followed in these cases.

**Required Materials**

Most course required materials are available through the Robert R. Muntz Library. These materials are available either online\* (<http://library.uttyler.edu/>) or on reserve.

1. All materials will be posted to UT Tyler BlackBoard or available through AccessPharmacy\*. The site address is: <https://blackboard.uttyler.edu/webapps/login/>.
2. Beringer P. Condren M. Chronic Illnesses IV and Pediatrics: Cystic Fibrosis. Pharmacotherapy Self-Assessment Program. 5th Edition. pg 181-204.
3. Borowitz D., et al. Cystic Fibrosis Foundation Evidence-Based Guidelines for Management of Infants with Cystic Fibrosis. J Pediatr. 2009;155:S73-93.
4. Flume P., et al. Airway Clearance Therapies. Respir Care. 2009;52(4):522-537.

5. Flume P., et al. Cystic Fibrosis Pulmonary Guidelines: Treatment of Pulmonary Exacerbations. Am J Respir Crit Care Med. 2009;180:802-808.
6. Senavides S. Approach to the Pediatric Prescription in a Community Pharmacy. J Pediatr Pharmacol Ther. 2011;16(4):298-307.
7. Yin HS, Parker RM, Sanders LM, et al. Liquid Medication Errors and Dosing Tools: A Randomized Controlled Experiment. Pediatrics. 2016;138(4):e20160357.
8. \*Koren G. Special Aspects of Perinatal & Pediatric Pharmacology. In: Katzung BG, Trevor AJ. eds. Basic & Clinical Pharmacology, 13e. New York, NY: McGraw-Hill; 2015.
9. Wainwright C, et al. Lumacaftor-Ivacaftor in Patients with Cystic Fibrosis Homozygous for Phe508del CFTR. N Engl J Med. 2015;373:220-31.
10. Nelson K. Sawicki G. Gilead Sciences. CF R.I.S.E. – Care Team Training Session. 2015. Available at: <https://clinicalmicrosystem.org/wp-content/uploads/2014/11/CF-RISE-Training-Presentation-Final-v7.pdf>. Accessed on September 16, 2016.
11. Mogayzel P., et al. Cystic Fibrosis Foundation Pulmonary Guidelines: Pharmacologic Approaches to Prevention and Eradication of Initial Pseudomonas aeruginosa. Infection. Ann Am Thorac Soc. 2014;11(10):1640-1650.
12. Yankaskas J, Marshall B, Sufian B, Simon R, Rodman D. Cystic Fibrosis Adult Care. CHEST 2004; 125:1S-39S.
13. **Other required materials will be posted on the classes' Canvas site. The site address is: [uttyler.edu/canvas](http://uttyler.edu/canvas).**

### Recommended Materials

The course recommended materials are available through Blackboard.

1. Brunzell C, Hardin D, Kogler A, Moran A, Schindler T. Managing Cystic Fibrosis-Related Diabetes: An Instructional Guide for Patients and Families. 6<sup>th</sup> Edition. Cystic Fibrosis Foundation. 2015.
2. Cystic Fibrosis Canada. Sexuality, Fertility, and Cystic Fibrosis for Adults. Toronto, Ontario M4P 2C9.

### Course Format

The course may include, but are not limited to, the following activities:

1. Independent study of selected readings
2. Individual readiness assessment tests (iRATs)
3. Team-based learning, active learning strategies:
  - a. Team readiness assessment tests (tRATs)
  - b. Team application of content and concepts

### Course Learning Outcomes (CLOs)

CLOs	Related PLO(s)	Assessment Methods	Grading Method	JCPP Skill(s) Assessed	AACP Std. 11 & 12
1. Describe the genetics, pathophysiology, and subsequent complications associated with CF utilizing jargon sensitive to health literacy.	7, 11, 15	BAT, CAT	ES	4	4
2. Explain the different types of pulmonary, gastrointestinal, hepatic, genetic, and endocrine CF therapies utilizing jargon sensitive to health literacy.	7, 11, 15	BAT, CAT	ES, RUB	4	4
3. Select and continually reassess the best therapeutic options for treating pulmonary, gastrointestinal, hepatic, genetic, and endocrine	1, 2	BAT, CAT	ES	2, 3, 4, 5	4

CF-related complications given a progressive patient case.					
4. Determine the best medication formulation given a pediatric patient's age and insurance.	8	BAT, CAT	ES	2,3, 4	4
5. Select appropriate laboratory values for monitoring and how often they should be obtained for a patient with CF.	2	BAT, CAT	ES	5	4

#### Course Assessment Methods

	Assessment Method	Description
1	Final Exam Multiple Choice or Multiple Selection Question(s)	<i>Standard MCQ for Assessment 1 and Final Written exam</i>
2	Skills Assessment	<i>Oral practical for recommendation/counseling</i>

#### Grading Policy & Grade Calculation

Grades will be determined based on evaluation of individual and team readiness assessment tests (iRATs, tRATs), individual and team cumulative assessment tests (iCATs, tCATs), midterm examinations, final written examinations, skills assessments, graded application assignments, participation in team-based projects, peer evaluations and other assessment methods that may include Objective Structured Clinical Examinations (OSCE). Examinations, RATs and CATs may consist of multiple-choice, true/false, short-answer, essay, and problem-based questions.

During the time the course is in progress, students whose cumulative course percentage falls below 70.0% may receive an academic alert and be subject to periodic course content review in special sessions with the course instructor(s). The student's faculty advisor may receive an academic alert to act upon on the student's behalf.

All examinations, tests, and assignments, including the final examination, may be **cumulative**. Students are responsible for material presented during the prior courses. The grading scale for all graded material is below. The final course grade will be assigned according to the calculated percentage and the percentages will not be rounded upward or downward. For additional information, see examination/assessment policy below.

#### Standard Grade Calculation\*

iRATs	10%
Assessment 1	25%
Final Written Exam	25%
Final Practical	25%
tRATs	5%
Team Applications	10%
<b>Total</b>	<b>100%</b>

\* If the student's weighted average for the summative assessments (CATs/midterms/assessments/Final Exam) is < 70%, the weighted average corresponds to the respective letter grade and is the final course grade.

A	90 - 100 %
B	80 - 89.999 %
C	70 - 79.999 %
D	65.0 - 69.999 %
F	< 65.0 %

**PHAR 7232 Course Schedule Fall 2021**

<b>Week</b>	<b>Topic</b>	<b>Readings</b>	<b>CLO</b>	<b>WSOP Category</b>
<b>1</b> <b>(8/23)</b>	The Basics: <ul style="list-style-type: none"> <li>- Pathophysiology and diagnosis of CF</li> <li>- Affected organ systems</li> <li>- Routine labs</li> <li>- Interviewing</li> </ul> Complications: Gastrointestinal <ul style="list-style-type: none"> <li>- Pancreatic insufficiency</li> <li>- Vitamin replacement</li> </ul>	PSAP article Infant Guidelines	1, 2, 3, 5	S02.03, S18.01
<b>2</b> <b>(8/30)</b>	Complications: Lungs <ul style="list-style-type: none"> <li>- Airway clearance</li> <li>- Inhaled medications</li> </ul>	PSAP article Infant guidelines Airway clearance guidelines	1, 2, 3, 5	S02.03, S18.01
<b>3</b> <b>(9/20)</b>	Complications: Outpatient Exacerbation <ul style="list-style-type: none"> <li>- Antibiotic selection</li> <li>- Pediatric dosing considerations</li> </ul>	PSAP article Exacerbation guidelines Approach to the Peds Prescription Liquid Medication Errors and Dosing Tools Basic and Clinical Pharmacology- Chapter 59: Pediatric Dosage Forms and Compliance	1, 2, 3, 4, 5	S02.03, S18.01
<b>4</b> <b>(10/11)</b>	<b>Assessment 1</b>	<b>Through Week 3</b>	1, 2, 3, 4, 5	S02.03, S18.01
<b>5</b> <b>(10/18)</b>	Complications: Hepatic disease <ul style="list-style-type: none"> <li>- Gene targeted therapy</li> <li>- CF Rise Program</li> </ul>	PSAP article Ivacaftor/lumacaftor study CF Rise PowerPoint	1, 2, 3, 5	S02.03, S18.01
<b>6</b> <b>(11/1)</b>	Complications: Pseudomonas Exacerbation <ul style="list-style-type: none"> <li>- Antibiotic selection</li> </ul>	Pseudomonas eradication guidelines CFRD guidelines	1, 2, 3, 5	S02.03
<b>7</b> <b>(11/8)</b>	Complications: <ul style="list-style-type: none"> <li>- Cystic Fibrosis-Related Diabetes</li> <li>- Women's Health</li> </ul>	CFRD guidelines Women's Health reading	1, 2, 3, 5	S02.03
<b>8</b> <b>(11/29)</b>	Final Assessments: <ul style="list-style-type: none"> <li>- Written exam</li> <li>- Practical exam</li> </ul>	All readings	1, 2, 3, 4, 5	S02.03, S18.01
<b>Please note that dates, topics, and assignments are subject to change. In the event of a change, you will be given ample notification of the change.</b>				

## Other Important Information:

- **Withdrawing from Class** - Students you are allowed to [withdraw \(Links to an external site.\)](#) (drop) from this course through the University's [Withdrawal Portal \(Links to an external site.\)](#). Texas law prohibits students who began college for the first time in Fall 2007 or thereafter from dropping more than six courses during their entire undergraduate career. This includes courses dropped at other 2-year or 4-year Texas public colleges and universities. Make sure to consider the impact withdrawing from this class has on your academic progress as well as the financial implications. We encourage you to consult your advisor(s) and financial aid for additional guidance. CAUTION #1: Withdrawing before census day does not mean you get a full refund. Please see the [Tuition and Fee Refund Schedule \(Links to an external site.\)](#). CAUTION #2: All international students must check with the [Office of International Programs \(Links to an external site.\)](#) before withdrawing. All international students are required to enroll full-time for fall and spring terms.
- **Final Exam Policy**: Final examinations are administered as scheduled. If unusual circumstances require that special arrangements be made for an individual student or class, the dean of the appropriate college, after consultation with the faculty member involved, may authorize an exception to the schedule. Faculty members are required to maintain student final examination papers for a minimum of three months following the examination date.
- **Incomplete Grade Policy**: If a student, because of extenuating circumstances, is unable to complete all of the requirements for a course by the end of the semester, then the instructor may recommend an Incomplete (I) for the course. The "I" may be assigned in lieu of a grade only when all of the following conditions are met: (a) the student has been making satisfactory progress in the course; (b) the student is unable to complete all course work or final exam due to unusual circumstances that are beyond personal control and are acceptable to the instructor; and (c) the student presents these reasons prior to the time that the final grade roster is due. The semester credit hours for an Incomplete will not be used to calculate the grade point average for a student.  
The student and the instructor must submit an Incomplete Form detailing the work required and the time by which the work must be completed to their respective department chair or college dean for approval. The time limit established must not exceed one year. Should the student fail to complete all of the work for the course within the time limit, then the instructor may assign zeros to the unfinished work, compute the course average for the student, and assign the appropriate grade. If a grade has not been assigned within one year, then the Incomplete will be changed to an F, or to NC if the course was originally taken under the CR/NC grading basis.
- **Grade Appeal Policy**: - UT Tyler's Grade Appeal policy requires the completion of a Grade Appeal form for this action to take place. The grade appeal begins with the instructor of your course. If you do not agree with the decision of the instructor, you may then move your appeal to the department chair/school director for that course. If you are still dissatisfied with the decision of the chair/director, you may move the appeal to the Dean of the College offering that course who has the final decision. Grade appeals must be initiated within sixty (60) days from the date of receiving the final course grade. The Grade Appeal form is found on the [Registrar's Form Library. \(Links to an external site.\)](#)
- **Disability/Accessibility Services**: The University of Texas at Tyler has a continuing commitment to providing reasonable accommodations for students with documented disabilities. Students with disabilities who may need accommodation(s) in order to fully

participate in this class are urged to contact the Student Accessibility and Resources Office (SAR) as soon as possible to explore what arrangements need to be made to ensure access. If you have a disability, you are encouraged to visit the [SAR Portal \(Links to an external site.\)](https://hood.accessiblelearning.com/UTTyler/) (<https://hood.accessiblelearning.com/UTTyler/> ([Links to an external site.](https://hood.accessiblelearning.com/UTTyler/))) and complete the New Student Application. For more information, please visit the [SAR webpage \(Links to an external site.\)](#) or call 903.566.7079.

- **Military Affiliated Students:** UT Tyler honors the service and sacrifices of our military affiliated students. If you are a student who is a veteran, on active duty, in the reserves or National Guard, or a military spouse or dependent, please stay in contact with me if any aspect of your present or prior service or family situation makes it difficult for you to fulfill the requirements of a course or creates disruption in your academic progress. It is important to make me aware of any complications as far in advance as possible. I am willing to work with you and, if needed, put you in contact with university staff who are trained to assist you. Campus resources for military affiliated students are in the [Military and Veterans Success Center \(MVSC \(Links to an external site.\)\)](#). The MVSC can be reached at MVSC@uttyler.edu, or via phone at 903.565.5972.
- **Academic Honesty and Academic Misconduct:** The UT Tyler community comes together to pledge that "Honor and integrity will not allow me to lie, cheat, or steal, nor to accept the actions of those who do." Therefore, we enforce the [Student Conduct and Discipline policy \(Links to an external site.\)](#) in the Student Manual Of Operating Procedures (Section 8).
- **FERPA** - UT Tyler follows the Family Educational Rights and Privacy Act (FERPA) as noted in [University Policy 5.2.3 \(Links to an external site.\)](#). The course instructor will follow all requirements in protecting your confidential information.
- **COVID Guidance**
  - **Information for Classrooms and Laboratories:** Students are ***strongly encouraged*** to wear face masks covering their nose and mouth in public settings (including classrooms and laboratories). The UT Tyler community of Patriots views adoption of these practices consistent with its [Honor Code \(Links to an external site.\)](#) and a sign of good citizenship and respectful care of fellow classmates, faculty, and staff.

Students who are feeling ill or experiencing symptoms such as sneezing, coughing, or a higher than normal temperature should stay at home and notify their faculty. Students needing additional accommodations may contact the Office of Student Accessibility and Resources at University Center 3150, or call (903) 566-7079 or email [saroffice@uttyler.edu](mailto:saroffice@uttyler.edu).

- **Recording of Class Sessions:** Class sessions may be recorded by the instructor for use by students enrolled in this course. Recordings that contain personally identifiable information or other information subject to FERPA shall not be shared with individuals not enrolled in this course unless appropriate consent is obtained from all relevant students. Class recordings are reserved only for the use of students enrolled in the course and only for educational purposes. Course recordings should not be shared outside of the course in any form without express permission.
- **Absence for Official University Events or Activities:** This course follows the practices related to approved absences as noted by the Student Manual of Operating Procedures ([Sec. 1 -501 \(Links to an external site.\)](#)).

- **Absence for Religious Holidays:** Students who anticipate being absent from class due to a religious holiday are requested to inform the instructor by the second class meeting of the semester.
- **Campus Carry:** We respect the right and privacy of students who are duly licensed to carry concealed weapons in this class. License holders are expected to behave responsibly and keep a handgun secure and concealed. More information is available at <http://www.utt Tyler.edu/about/campus-carry/index.php>.