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The Stony Brook University Online Course, BCP 405, ‘Pharmacology to Pharmacy’

http://sb.cc.stonybrook.edu/bulletin/current/courses/bcp/
(Scroll down to ‘BCP 405’)

INTRODUCTION: This course, offered exclusively online, is designed for undergraduates interested in health care (either basic biomedical science-oriented or clinical). After description and demonstration of common medical procedures, the class introduces many aspects of clinical pharmacology with presentations of clinical vignettes and case discussions, but is geared toward non-clinicians. The interprofessional course faculty includes physicians, scientists, an educator, an advanced practice nurse, and a hospital pharmacist. Students have the opportunity to ask questions directly through online chats.

The course is offered throughout the year in semester format (twice in the summer, once each in the fall [now ongoing], winter and spring [both coming soon]). The course is valued at 3 credits, can only be taken for credit once, counts toward the SUNY Stony Brook bachelor’s degree and satisfies specific SBU graduation requirements to “Prepare for Life-long Learning, Evaluate and Synthesize Researched Information (SBC-ESI).”

GRADING/COURSE FORMAT: Grades are based on student performance on fact-based quizzes offered frequently (7-15 times) throughout the course and on an equal number of formal online discussions with expert Stony Brook faculty who have broad experience as physicians, biomedical scientists, advanced practice nurses, pharmacists and educators. Each quiz is 5-10 questions in length, and like all other aspects of the course, is administered online and in an ‘open-book’ format. Graded discussions are formal, involving questions posed by the faculty. After completing each session, students are guided to apply this newfound knowledge within clinical scenarios. Interactions with course faculty not only provide opportunities to learn and apply this material but also to network with professionals working in an academic medical center.

Topics covered include 1) hospital culture and etiquette; 2) disease manifestation/patient-care simulation, both with high-tech mannequins and live models; 3) procedure demonstrations including intravenous line placement, lumbar puncture (spinal tap), nasogastric (feeding) tube placement, and endotracheal intubation and airway management; 4) drug development and regulatory approval; 5) research and biomedical ethics; 6) pharmacy practice, both in the hospital and in the community; 7) drugs in society as well as in the lay press; and 8) modern pharmacokinetics, pharmacodynamics and pharmacogenomics.

Students completing this course have been uniformly enthusiastic. Representative responses to “What was valuable about this course?” include: 1) “very informative, prepares you for the health sciences;” 2) “Course transcriptions were invaluable. It was easy to study from both the videos and the written material. Professors were quick to respond via email;” 3) “I found the course very interesting. It explained things in an easy and clear way. I was able to learn the material easily while working and commuting full time;” and 4) “This course featured many intriguing and exhilarating topics. Aspiring to intern and with increasing interest to represent a pharmaceutical company as an attorney in the future, I acquired an extensive amount of knowledge through the teachings of the course.”

Paul A. Fisher MD, PhD
Paul.Fisher@StonyBrook.edu
Course Co-Director

Stephen A. Vitkun, MD, MBA, PhD
Stephen.Vitkun@StonyBrookMedicine.edu
Course Co-Director
Additional Student Comments
(Spring, 2016)

“Everything about this course was great. I have taken quite a few online classes and I regret it everytime because I find the set up difficult or I find that it is hard to follow along. Usually I feel like you basically have to teach yourself, but this class was above and beyond my expectations. The set up was great and very straight-forward. The professors were very interactive and helpful. Along with that, they were easy to get a hold of if needed, which is great and can sometimes be hard to do with online classes.

“I think taking this class will help me succeed once I am in a nursing program because of the health care knowledge I gained…

“I appreciated how organized this course is and that it was online.

“There was nothing specifically that was bad, in my opinion. I think every lecture was useful and relevant.

“This is definitely one of the top/favorite courses I have taken at Stony Brook. I wish there were more like it...

“Before this semester I hadn’t taken any online courses, but after taking this course, I can definitely see myself taking more classes online.

“The single best feature of the course would have been the pharmacokinetics/pharmacodynamic lecture since it was most applicable to my major as well as my work as a pharmacy technician. I could actually connect what I learned in the pharmacy with what I learned in this course.

“Overall I gained valuable information concerning drug effects, drug discovery, and aspects about pharmacy. I signed up because I felt that it would be beneficial to me as a pre-veterinary student who currently works in an animal hospital… I was able to connect the things learned in this course to my personal interests in medicine and find connections between what I see at work (vocabulary, drug information, technical skills etc) and being able to expand my knowledge by bringing together academics and real world experiences to have each reinforce the other.

“I think what I personally gained from this course is that I definitely want to become a doctor, and later on, a surgeon. This course simply enhanced my passion to learn more about the medical field.

“I gained a lot of basic knowledge in modern medical procedures and a fundamental understanding of how hospital and pharmacy works.

“From this course I personally gained a respect for the teamwork that has to be exhibited in the hospital daily to ensure the patients receive the best care.

“There were many things that were good about this course… The single best feature of this course was the fact that it was offered online, which allowed…me to take the course as I was away this semester.

“I truly enjoyed this class and if there were a part 2 would definitely enroll in it.

“The course was VERY informative. I signed up for this course because I am a psychology major and wanted to see the medical side of things before I went on to a Master's Degree that wasn't medical based. I gained knowledge…I actually got an insight of the hospital. My favorite part was learning about dosages and toxicity.

“I am pre-medicine and was looking for a way to learn more about the medical field, pharmacology, and common medical procedures. I personally gained a lot of knowledge about drugs and how they work, and how to work out dosages such as using the therapeutic window. I also learned quite a bit more about laws pertaining to medicine than I thought I would, which I also appreciated.

“I signed up for this course because I am currently trying to decide between pursuing an MD or a PhD and was hoping to learn more about pharmacology. Thanks for a great class!

“I enjoyed the discussion posts. I think they really helped me solidify my knowledge of the material by having a back and forth with the professor. It felt like it was a very one on one experience.
"The fact that this was an online class caught my attention and I'm shocked at the amount of information I retained from the class. Job well done as far as online classes go. Thanks for everything!

"I loved this class... I definitely think this is an excellent course for pre-med and health students... The best feature of this class was that it is online.

"I am SO glad that I had the opportunity to take this class, and that I decided to take it. I will definitely recommend this to anyone."

(Summer, 2016)

"I just wanted to express to you how much I enjoyed the course over the summer. I learned so much information which intrigued and excited me to begin an education and career in the medical field. After taking this course, I can't wait to be able to have some hands on experience.

"I really liked the extra videos with the dummies and also at the end where they ran through some medical scenarios. I also thought the lectures in general were all well put together and easy to follow.

"What I really enjoyed about the course was having the exposure to several different medical fields in an in depth and thorough manner. I thought that the weekly discussions really attributed to a positive experience since I was able to read other opinions on the same topics I was reading about. There were times when I would have one response to the question but looking at my classmates' responses opened my eyes to different possibilities. The best feature in the course was the case study discussion. I really appreciated applying what we learned to real life scenarios.

"I enjoyed taking this course over the summer. The best thing about this course were all the lessons that were posted for us. They were all very detailed and easy to understand. What I liked was the fact that each faculty that was involved in the course had the chance to teach us lessons. The videos of lumbar puncture and IV lines were very beneficial. I am a visual learner and it is easier for me to learn and retain something when I visually see it. The single best thing were the discussions posts. It was good that we got to use critical thinking when answering the discussion posts.

"The amount of basic clinical information dispensed is admirable considering it’s geared to undergraduates. It was able to cover a broad variety if topics easily.

"This course was great because I could plan out when I would spend time working on it, and I could learn at my pace. This made it a lot more enjoyable and I feel like I learned a lot better than this way. The single best feature was the discussion. I really liked the discussion questions because they didn’t just ask you to regurgitate information; they really required you to think about what you learned. I really appreciated that.

"The course covered many interesting topics such as the basics of doing a differential diagnosis and the available tests to that can narrow down the various possible causes. The single best feature of this course is the fact that there were a variety of faculty from various medical fields involved in the lectures.

"There are many good things I found about the course. Overall, I really enjoy how the course was managed and how it progressed over the summer. I found that the structure of the classes and lectures were very well done and informative. The overall pacing of the course and flexibility of assignments were also very good aspects of the course. The course progressed at a good speed which did not feel overwhelming or confusing.

"It was an amazing class that was very informative and well done.

"The single best feature was that the course load was do-able. People are always afraid to take online classes because it means that you have to do discussion posts and it might be a big commitment. I felt the material was fair as well as the requirements.

"What I really liked about this course was that it gave you a better view and understanding of what medicine is and what actually happens in a medical environment. Not many courses allow students to actually see the application of their science knowledge and connect it to medicine other than going outside and seeking experience in hospitals. This course helped me see the connection with undergraduate pre-med courses and actual medicine.
“Everything was FANTASTIC about this course! I loved it. It was honestly the best class I have taken. So much that is relevant to my future career. The best feature was the syllabus and how the course ran.

Nothing was bad about this course...

“I'm really grateful that this course was offered online. The most beneficial feature in this regard would have to reflect upon how I was able to hit the "pause" button on my work - whether it be a quiz or a draft - if I needed to. It made me feel more comfortable with the pacing of the work given it's summer and I have other engagements to attend to. I didn't ever feel like I had to sit down and do everything at once unless I wanted to.”

(Fall, 2016)

“BEST FEATURE: Interactive discussions in the “weekly post” with faculty members in charge of leading the particular presentation. It is quite often tempting to answer a question with the “obvious” solution, i.e. answering “what, when, and where.” If we fell into that trap, the faculty member(s) would challenge us to dig deeper: that is to say, “how, or why” did we reach a particular solution? This is quite contrary to my “classical” biology/biochemistry course experience at the University where answers are given credit in the “all or none” fashion – i.e. answering multiple choice questions on the basis of rote memorization.

“I always had both an outside and academic interest in programming and computational methods. The particular discussions at the end of the course (drug design and pharmacogenomics) introduced ways in which I could apply computing to the rapidly evolving field of biologics. Whether I decide to pursue medical or graduate school (or perhaps a combination of both or other degrees) in the future, I can certainly work and build upon the ideas set upon by the faculty of this course – and to this I say thanks very much!

“I really liked how the course was centered around all aspects of pharmacology and medicine along with current events in the field. From the very beginning we were introduced to HIPAA (Health Insurance Portability and Accountability Act) which is a addresses the privacy and security of health care information and it aims to protect health information. With the introduction of this topic, I liked how we were provided with different scenarios in the lecture to quiz ourselves to see if there was a HIPAA violation and what should be done to handle the situation. From there we were introduced to basic aspects of clinical medicine, which was my favorite section being that the lecture stressed key points that needed to be obtained from a patient history. I appreciated the different clinical scenarios presented regarding chest pain and its possible causes, whether it be gastrointestinal, muscular or of cardiac origin. Following the vignettes I liked how different clinical tests for chest pain were discussed like EKG, biochemical markers (CK-MB) for MI, etc. Overall the lectures were presented very well and the material was interesting and provided great exposure for students wanting to pursue medical school, PA school, nursing or any other health-related profession.

“Some of the features I liked about this course include no exams, interesting material and effective lecturers. Although this was an online class, I was still able learn a great amount of material regarding medicine and health science. I found a lot of the material to be very interesting and useful for my future career in the pharmaceutical science field.

“The single best feature about this course was the amount of material that I was provided with, without buying a textbook. If I ever had future questions in regards to pharmacy, I would just simply need to look back at the material that i received . I personally believe that the grading was a little unfair, because there were many professors who were grading. It was hard for me to adjust to each professor and their grading style. I would love to have an opportunity to go back and fix my discussions if I could.

“This course was very informative. The course integrated a lot of information without it being overwhelming or confusing. The professors all gave very good explanations and showed us how to demonstrate several procedures, which I truly enjoyed. For this course I can honestly say there was not a bad feature.

“The best feature of this course is the clear instructions. Online courses may be confusing because everything is virtual and there is no professor standing in front of you telling you what to do. Fortunately, Professor Fisher was extremely responsive and made numerous announcements on Blackboard. Professor Fisher made this upper level, critically engaging course, do-able.
"As a non-pharmacology major, I found the discussions challenging and it was hard when I did not score highly. Other than my own personal struggle, the course itself had nothing negative.

"I signed up to take this course because I needed to fulfill an SBC [requirement]. My friend had previously taken this class and she highly recommended it to me. She said I did not have to be a pharmacology major to do well in this course.

"I very much so enjoyed this course and what was taught to us. I believed that I learned a lot and it helped to bring my medical and pharmacy background together, which was very interesting for me. I enjoyed the pace of the class, that it had the potential to be a crazy difficult class, but the teachers properly taught it at a good and effective pace.

"I gained knowledge and a different form of understanding for medicine. I now look at it with a different perspective, and for me that is super cool and interesting to have a class give you a different outlook on your favorite thing in life.

"This course was good because it teaches a lot about working in a hospital, preparing you for if you want to work in a hospital. It taught a lot about what goes on behind the scenes of hospitals, pharmacies, etc as well as things like how a drug becomes a drug. The session transcripts, though sometimes not entirely accurate, were very helpful for finding the specific information I was looking for from a session. The best feature was probably how interactive the instructors were and how willing they were to help the students.

"Sometimes the quizzes and very rarely the discussion board posts felt like they required outside information, which didn't seem to fit in with the purpose of the course. The grading for the discussion board posts could feel unfair at times, when forgetting a small detail deducts two points. It could also be a little difficult going through the sessions where there wasn't a transcript, since you would have to go through slide by slide to review, though that probably couldn't be helped. There wasn't much that was bad about this course, and there wasn't really a single worst feature.

"I signed up to take this course because I was interested in pharmacology, and because this course provides upper division credit. Also, since it was an online course, it worked better with my schedule, since I didn't have to fit a specific time into my schedule to go and attend class.

"I would say the most valuable thing I gained from this course was how it helped prepare for a field where I would work in a hospital or pharmacy. It helps me feel more confident going forward that I would have somewhat of a clue what I'm doing if I were to work in a hospital or pharmacy in the future.

"In my personal point of view, what is good this course is its simplicity and straightforwardness. The element of the course which is contained in the class syllabus is simple, relevant, easy to grasp and understand. The course objectives and the course goals are SMART. They are realistic, measurable, attainable and time-bound. These are important in making sure that the students are getting the best education possible to help them become a quality service provider. I like the uncomplicated course tools that are extremely user friendly. I can navigate through the course without difficulty."