

Undergraduate Research Curriculum Committee

Thursday, April 13, 2023

Meeting Minutes

WebEx Meeting 12:30 pm to 1:30 pm

Attendees

Members present: F. Bloetscher, E. Williams, E. Bennett, JY. Park, D. Mitsova, M. DeDonno, T. Hindle, C. Krause-Parello and D. Chamely-Wiik

Others present: V. Aalo, M. Stawikowski, T. Sempertegui, S. Darling, P. Sampedro and J. Soberon

I. Approve January 19, 2023 - meeting minutes.

Motion to approve: E. Williams and F. Bloetscher, all in favor.

II. Course submitted for RI Designation

1. SCI – BCH 4036 RI Advanced Biochemistry - M. Cudic

Dr. Cudic could not attend the meeting and Dr. T. Sempertegui came in her representation to present the course and answer committee questions.

This course deals with protein, mostly protein purification and characterization of the biologic activities. Is one of the elective courses and very popular, already involves lot of research, Dr. Cudic modified the syllabus to meet the RI designation requirements. The course project is designed so the students will be able to apply extra learning objectives and explore the literature. Students will find proteins; they will characterized them and discuss best methods of verification and will use critical thinking skills to assess the best methodology. In essence, it is a research proposal so it is a very forward step for students, academic careers in their scientific field.

MdD: This course has 3 exams and a project, so the course is essentially based on 4?

TS. Yes, and all of them are equally weighted

Motion to approve: F. Bloetscher and D. Mitsova, all in favor

2. SCI – CHM 4273 RI Introduction to Drug Design – P. Cudic

Dr. Sempertegui presented the course on Dr. Mare Cudic behalf and answered committee questions.

TS- this course is a senior level course, part of the Certificate for Farm Fund Tech in the Chemistry Department. Students who take this course will be able to obtain the certificate and will prepare them for careers in drug discovery.

In this course students are going to look of what is existing and review the literature, to them propose a plan for what they are going to be looking at for the design and analysis of the existing data as well as new projects to characterize this job as a candidate.

Committee did not have questions, the course syllabus and Dr. Sempertegui presentations were clear.

Motion to approve: T. Hindle and JY. Park, all in favor

3. SCI – CHM 4350 RI Structural Biochemistry – M. Stawikowski

Dr. Stawikowski have been teaching this course for a while. This course is kind of unique because it deals with the practical aspect of a structure of biochemistry. There are the

interactions between the bio biomolecules. The students are no longer looking through, playing static images on the computer or biochemistry textbooks, but they have firsthand experience in trying to understand all the biological classes of compounds.

Students will perform docking studies, and answer questions on what happened to this x molecule, how does this works, how can be modified?, etc. By the end of this course, students will make a report from the structure to the function, to the application.

MS. mentioned that in the past his course has received curriculum grants funds for implementing 3 D printing into the class. And this has been successfully implemented.

DCW and DM- requested to add the heading and some minor updates to the syllabus and send it back to the committee. Course will be approved after receiving updated syllabus.

Motion to approve: F. Bloetscher and D. Mitsova, all in favor.

4. EDU – EEX 2091 RI Disability and Society – S. Darling
DCW – checked this course with T. Ambrosio who heads up the general education within the university courses and the course satisfies the criteria.

S. Darling – This is an introductory course for our degree program. Oriented for students who are wanting to learn about children and disability from a social science perspective.

This course allows them to obtain some foundation information about stigma, how individual disabilities are treated and perceived in society. The idea is that students will take the lens of their own major's perspective in how this might impact or how their work might impact adults and children with disabilities.

Students will decide on a research project to conduct, based on the question, related to their major looking at textural barriers. SD. Gave some examples: an architectural student looking at charter schools and their treatment of students with disabilities; if they are an education major looking at employment opportunities, etc.

This is an online course and the product is poster to be presented in class via canvas, at the moment all are individual projects, but if the number of students enrolled increase we will work in groups.

DCW – we have approved group projects before; ENG&CS works a lot in group design projects with individual assessments.

DCW congratulated Sharon for adding UG Research Certificate language to the syllabus.

Motion to approve: D. Mitsova, JY. Park, and F. Bloetscher, all in favor.

5. ENG – CAP 2753 RI Experimental design and Data Analysis – V. Aalo
DCW introduced Dr. Aalo, originally he proposed two courses, this one and a 4000-level course that was tabled until the fall.
V. Aalo - ENG&CS has received a \$26 million NSF grant, one of the objectives is to have a strong workforce development and the idea is to get some pipeline, to encourage undergraduate students to get involved in research at certain level.
This is a standard experimental design, statistical design of experiments costs where we teach students to discuss tools in particular analysis of brilliance, and how to just design experiments, this course activities cost. He explained that his department has 3 programs: Electrical engineering, Computer Science and Computer engineering, from these three programs 80% of the students are computer science majors. At the moment they can work

with any database but the objective down the road is to use data that is tied to the grant itself.

Dr. Aalo is co-director of workforce development for the NSF CS3, he was grateful that this course came on the perfect time to be considered for RI designation, so he can include it on his upcoming presentation at Columbia University.

MdD. Where do the students get the data? Do you give them the data set? Or do they do they find the data set?

VA. I have several datasets and especially topic of the data does not matter from point of view of the students, what they need to know is how to use the statistical tools to analyze the data. I showed them businesses where can they get the data, but the objective is for them to be associated, or paired up with faculty members on the grants and get data from the research affiliated with the grants.

MdD. You sent them to get the data or give them the data and then it is kind of their role to formulate questions?

VA. A reasonable research question based on the data that is available in the dataset. Yes. So I give them to test it. He gave the students some examples of how the questions should look like and what to expect them to design, but then they should produce their own set of questions. They can use any tool that they want, usually work with Cisco, Dr. Aalo is teaching them to use Python, some can use excel, but this is entirely up to the student.

JYP. Mentioned that this course looks more like a skill building course.

DCW. Clarified that was how it was taught before, but in his explanation of how the cost is going to be taught, once it becomes as defined within the syllabus indicates a question driven approach towards a completion of an original research project. Utilizing on knowledge base and expertise from a larger body of data sets that will now be available to him through this NSF grant.

After the meeting we will get confirmation that this course will be always teach as RI.

Motion to approve: F. Bloetscher and E. Williams, all in favor.

III. Undergraduate Research Certificate Updates – Petitions for substitution

1. SCI – CHM substitution of DIS- CHM 4905 for DIR – Evelyn Yancey
DCW at the time Chemistry did not have DIR courses, now does.
Motion to approve: E. Williams and D. Mitsova, all in favor.
2. ENG&CS substitution of EML 4551 for RI – Marvin Medina
RI EML 4521 is a pre-requisite to take EML 4551 that the department though that was submitted for RI fast track and will be submitted for RI designation in fall 2023.
Motion to approve as DIR: F. Bloetscher and E. Williams, all in favor

Additional: DCW requested to include the UG research Certificate language moving forward to the syllabus, this committee will submit an Add a university item to UUPC.

Motion to approve: E. Williams and F. Bloetscher, all in favor

Meeting adjourned 1:20 pm.