

Minutes of CGSR Meeting #25 on 4/4/2024

The Committee on Graduate Studies and Research (CGSR) held its **twenty-fifth meeting** of AY 23/24 on April 4, 2024 (Thursday) at 3 pm ET via Zoom.

Present: Sarah Olson (MA, Chair), Luis Vidali (BBT, Secretary D term), David Medich (PH), Terri Camesano (Dean of Graduate Studies).

Guests: Sarah Miles (Registrar), Melissa Terrio (Grad Recruitment and Admissions), Alexander Wyglinski (Associate Dean of Graduate Studies), Ali Rangwala (Fire Protection Engineering), and Jagannath Jayachandran (Aerospace Engineering).

Prof. Olson called the meeting to order at 3:00 pm (US Eastern Time).

1. The committee reviewed three updated motions from IMGD. The motions are for changes to the graduate catalog for our MFA in Interactive Media and Game Design, which the IMGD faculty voted on 2/29/24. Updates with a larger motion broken into 3 smaller motions. One is to reduce credit count, one is to introduce Bachelors/MFA on a new catalog page, and one is to remove BS/MS language from the current IMGD MS catalog page. The only comments were to add page numbers to the document. The committee decided to follow up with the possibility of having an electronic vote.

2 The committee discussed that it is important to remind departments that they must put in the catalog exactly what was approved by CGSR and verify that the information in the catalog is accurate.

3. The committee continued to review the updated motion for an MS in Integrated STEM Education. Many of the concerns and suggestions from the committee were addressed. There was concern with the dates for the start of the program. There were also concerns about the possible high total credits for capstone and GQP. The Registrar also noted that it is necessary to specify that the capstone, GQP, and thesis should be listed with variable credits (1-6). There was a question about how the need for new resources would be separated into in-load and out-of-load. It was mentioned that there is a letter from the Dean of Undergraduate Studies addressing this issue and that the Dean of Graduate Studies will follow up.

4. The Dean of Graduate Studies, Terri Camesano, presented an update on the Graduate Strategy Task Force.

Dean Camesano presented an introduction to the task force, focusing on the distinctiveness of the MS programs at WPI. She mentioned that she organized a retreat in February and invited some department heads, graduate coordinators, members of CGSR, and a few other faculty and staff stakeholders (approx. 20 people). They were asked questions about our MS programs, and after presenting their answers to the President, they decided to focus on four main ideas. These ideas will be explored in small working groups during the summer with a small amount of support available for faculty. The process to access this support needs to be determined.

- a. Fleshing out personalized pathways in WPI's MS. What is your career goal and your passion? Show options to students.
- b. Identify new types of industrial partnerships. Engage with the industry to ensure the success of our MS programs.
- c. Artificial Intelligence in everything. Identify departments that are not connected to AI and try to figure out if we can introduce AI into their programs.
- d. BS/MS – We do a lot of recruiting for it, but we do not have a strategy to maximize this. The BS/MS is an increasing trend with undergraduate students with many AP credits. The goal is to have a very attractive BS/MS with flexible pathways and identify what makes them viable.

Dean Camesano will be discussing these ideas and the process of moving forward with other deans and department heads. They will identify ways for their departments to participate.

One of the committee members asked if other forms of machine learning and optimization were considered similarly important topics to artificial intelligence.

Concerning students with many AP credits, the Registrar mentioned that the percentage of students graduating early is ~7%, which has recently grown, but not by much.

5. The committee reviewed the updated motions for certificate programs in computer sciences. One certificate in Secure Programming consists of four existing CS grad courses. The second certificate on Teaching Cybersecurity for High School Teachers consists of six CS grad courses. It was noted that the motions still need departmental approval.

6. Prof. Ali Rangwala and Prof. Jagannath Jayachandran presented an updated motion for an MS and certificate in Explosion Protection Engineering.

- a. The program will be in memory of Prof. Robert Zalosh (Fire Protection).
- b. Prof. Rangwala explained the difference between fire protection and explosion protection. Explosions are the result of more power and smaller time scales. Explosions present the largest losses in industry, at large and small scales.
- c. There is no other national program similar to what is proposed, and only one other exists on mining explosions, which is different because, in mining, the explosions are designed. It could be the first program in the US or the world.
- d. WPI has the necessary experience and research.
- e. The goals for the program were presented, including bridging gaps between industry and academia, and facilitating internships and jobs.
- f. There is an international collaborator in Norway.
- g. Creating a community. For example, to have an MS thesis competition and conference to increase engagement.
- h. Reach out to insurance companies and other companies that are interested.

- i. It was mentioned that battery fires are always explosions. It is also important for the space industry, where accidents are always explosions. It is also important for the imminent growth in hydrogen hubs and battery storage.

The Registrar indicated that the motion must specify this is a Master of Science in Explosion Protection Engineering, not a Master of Explosion Protection Engineering.

The presenters indicated that they still need to fine-tune the courses for the certificate.

The presenters still need to identify the catalog number for the proposed new courses and generate the motions for the courses.

The presenters indicated they plan to recruit students from Chemical Engineering. There is a lot of interest in the fire protection industry to get into the explosion protection field. Consulting companies are interested in this program because of the regulatory commission.

The Registrar mentioned that the TOEFL requirement can only be waived for students who completed their undergraduate degree at a US institution or have lived there for over 5 years.

The committee commented on the budget projections. The presenters mentioned that they would discuss resources and support with the Dean of Engineering. It was clarified that CGSR does not sign off on the budget but looks for support from the corresponding school.

The presenters explained that the program is expected to grow from 10 students to 40-45 and that classes about explosion safety are very popular.

The meeting was adjourned at 4:01 pm.