Message Points for BOT Items—Civics Literacy and STEM Teaching Certificate

BOARD APPROVED
August 8, 2025
Cindy Ream
Corporate Secretary

Civics Literacy

- ***Recommendations***: BOT to adopt a single pathway for the learning requirement; and to direct that the program apply statewide.

- ***Background***: After phase-in period, ALL Purdue students are now required to complete a "learning component" and to pass a test. Heretofore, students have had three options for the learning component: complete an approved course (or receive transfer credit); attend six approved events and write an essay after each; listen to 12 podcasts and take a quiz after each. Currently, virtually no students follow the "events" pathway; ~50% the podcast pathway; and ~50% the course pathway. Of the ~50% pursuing the course pathway, three-quarters employ dual-enrollment or AP credit to complete the requirement. There is little consistency across the Purdue system, and PFW appears to be creating its own structure entirely.

- ***Message Points*:**
  - When we started the CL requirement, we didn't envision that so many of our students would complete the learning component in high school. We want to elevate both the quality and level of the learning component.
  - Ideally, students should learn both the historical foundations of the United States, as well as the political considerations that have shaped the country since the founding. The course enrollment pathway requires students to choose between the two. Only the podcasts pathway incorporates both.
  - The CSPAN partnership has ensured that the information conveyed in the podcasts is both high quality and at the postsecondary level of learning.
  - The CL requirement is now part of the Purdue brand. There should be consistency of approach across the system.

STEM Teaching Certificate

Recommendations: BOT directs the dean of the WL College of Science to establish a 9-credit STEM Teaching Certificate to be delivered within the College of Science; and to direct the deans of the Colleges of Science at the regional campus to adopt the WL model for delivery to their students.

Background: By action of the 2025 General Assembly, SEA 255 specifically enables STEM students a unique pathway to obtain full initial licensure to teach in any Indiana secondary school. The statute requires completion of 9-credits in the fundamentals of STEM teaching, including methods and materials of STEM instruction; assessment; and use of instructional technology and lab experiments.

Message Points:

1) The students enrolled in the certificate program will de facto be College of Science students, and therefore the concern of the faculty of the College of Science. The CoS faculty, and no others, must ensure that the students meet the rigorous standards of learning befitting the critically responsible role of a secondary teacher—both in their disciplinary mastery and in knowing how to translate that disciplinary content to secondary students.

2) The students enrolled in the certificate program will also be the concern of the College of Science advisors. Those advisors must ensure the academic credits of the certificate integrate coherently with the students' demanding degree requirements, as well as their undergraduate research pursuits. They must also ensure that the students complete the

other requirements of SEA 255–earn a passing score on the PRAXIS subject test; and complete suicide-prevention and CPR training.

3) Since the College of Science will be the grantor of the certificate, the college has not only the prerogative, but the duty, to ensure that the curriculum produces the learning outcomes that will lead its students to success in their teaching careers.

4) The College of Science faculty see daily the outcomes of secondary STEM teaching—its successes and its failures. There is no better judge of the knowledge, skills, and abilities that are needed to succeed in STEM disciplines in higher education.

5) Surprisingly, the College of Education is no farther along in its ability to offer the 9-hour curriculum than the College of Science—perhaps it is because its focus is on other things… While the College of Education currently offers courses containing some of the requirements outlined in SEA 255, only one undergraduate course—EDCI 428–Teaching Science in the Middle and Junior High School—seems on-target, and then only for middle grades, not high school. Other courses, including "Introduction to Educational Technology and Computing", "The Teaching of Earth and Physical Science in the Secondary Schools", and "Classroom Assessment" appear to offer some components that could be incorporated into the 9-credit curriculum.

But even if some of those concepts could be used in the new 9-credit curriculum, what is needed is a tight, focused curriculum that is designed *specifically and solely* for STEM majors who wish to teach. Lucy has in her team the expertise and capacity to develop that curriculum. Moreover, since the College of Science faculty must approve the curriculum for their students, there is good rationale to create it with their support and oversight from the start.

6) Phil has offered to help, and the best form of help would be to provide Lucy the student learning outcomes and sample syllabi for the above-mentioned courses. And perhaps he would contact the instructors of those course, asking if they would be willing, in the name of collegiality and cooperative spirit, to serve as sounding-boards for Lucy's team.

STEM Teaching Certificate

Purdue Board of Trustees—August 8, 2025

Presented by:

Patrick Wolfe, Provost and Executive Vice President for Academic Affairs

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The Need

- In 2023, the Indiana Department of Education issued only 413 Initial Practitioner Licenses in STEM subjects.

- The IDOE issues 400% more emergency teaching licenses in STEM than Initial Practitioner licenses.

- School districts statewide report “very serious” teacher vacancies in STEM subjects.

A New Opportunity—SEA 255

- Passed in 2025 by the General Assembly and signed by Governor Braun.

- Requires the IDOE to grant Initial Practitioner Licenses to STEM majors who:
    - Complete 9-credits in the foundations of STEM teaching;
    - Complete job shadowing and field experiences in STEM teaching;
    - Earn a passing score on a standardized test in the STEM major.

The Purdue Plan—College of Science STEM Teaching Certificate

- Offered by the College of Science, available to Science, Engineering, and PPI students.
- Students complete 9-credits, taught by College of Science instructors.
- College of Science advisors integrate the Certificate into students' demanding schedules.
- College of Science will help connect students to job shadowing and field experiences
- Students continue to participate in research AND graduate on time.

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Next Step—Seeking BOT Approval

We ask the trustees to direct

- The College of Science to create a STEM Teaching Certificate; and
- To develop a curriculum and programmatic guidelines leading to the conferral of the College of Science STEM Teaching Certificate in compliance with the requirements outlined in SEA 255.

Thank You

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