

Assessment Report



- **GOALS**

- Develop tools to better understand students' program experience in Spring seminar and summer internships
- Utilize tools to increase knowledge of student experience/take-aways, improve program and identify problems (if needed)

- **ACTIONS**

- Conduct pre and post tests for students in Spring seminars
 - Demographics (in addition to the standard class metrics)
 - Knowledge – baseline and gain
 - Student interest/motivations
 - Student expectations
 - Student satisfaction (includes additional section on modifications made due to Covid-19)
- Focus Groups with summer internship students
 - Demographics
 - Learn about student experiences in the participant's own words
 - Identify best and worst things about the internship experience
 - Obtain suggestions for future improvement
 - Identify key learning outcomes and knowledge gains

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Some RESULTS and STUDENT FEEDBACK

- Seminar (Sp20 & 21, N=22)
 - Knowledge gains were identified across all key curricular topics with the highest gains in the areas of societal impacts of energy decentralization, transactive energy, privacy regulations and software design challenges for autonomous vehicles as well as students' ability to provide examples of current research in the area of societal dimensions of emerging technologies.
 - In the post survey, all responding students agreed that the seminar expanded their understanding of the relationship between engineering and software design challenges. Additionally, these same post seminar students all indicated an interest in participating in the PIRE summer internship experience.
 - All but one respondent indicated that they would recommend the seminar to peers.
- Internship (Su19 & 20, N=9)
 - All students found the level of work appropriately challenging.
 - When deciding on this internship several students indicated that the primary draw was the unique combination of working with persons in Germany and the experience/project itself.
 - Key knowledge gains included awareness of social impacts and global perspectives on cyber-physical systems, problem solving skills, project management, learning new tools/resources, and research competencies.
 - Overall students felt their experience made them a better job/graduate school candidate (i.e., international collaboration, paper/publication, experience, knowledge, etc.).
 - All internship students indicated that they would recommend the experience to peers.

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- RESULTS and STUDENT FEEDBACK - Internship

“ [The internship] gave me a chance to work with applications I never worked with...the seminar.... exposed me to research and areas that I didn't know about before.”

[In Germany] ”we'd have coffee after lunchspend time talking about the project with professors, students...”

“[I learned] how research workslooked at emerging problems from different angles”

“[I] got to learn about problem solving using European and the U.S. models/frames...used them to try and quantify risks for decisionmakers”

“the exposure was really cool . . . [the] thing I liked the most was getting to know the mentor[s]...especially the Germans and establishing real relationships with established researchers....[I] learned so much just talking to them.... ”

“ [the internship] gave me confidence that this is what I want to do . . . I have experience that I can talk about now”