

# NUCE 449: SENIOR DESIGN PROPOSAL

FALL 2018

Mon: 3:30 pm - 4:20 pm @ 118 GRIS

**Course Outcome:** Writing and presentation of a proposal for the senior design project, NUCL 45000. The tasks include the selection of project design topics, the selection of teams, introduction to design process, team management, communication, and engineering ethics, literature and patents survey, initiation of design activities and familiarization with design tools (e.g., software).

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Office Hours: By appointment

**Design Mentors:** Exelon: Seth J. Spooner, [Seth.Spooner@exeloncorp.com](mailto:Seth.Spooner@exeloncorp.com)  
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**Text and References:** Class Notes and handouts

## Requirements:

- Attendance is mandatory. Absence due to extenuating circumstances needs to be notified to the instructors prior to absence and requires approval by the instructor.
- Presentation on project progress: Each team will make a 15 to 20 minute professional technical oral presentation describing the progress/accomplishments/problems-to-be solved for its design project topic. (*Refer to the course schedule*).
- Final Project Proposal: Each group will submit a comprehensive final technical report. This report is due no later than Wednesday, December 5th, 2018 (Due day is subject to change per sponsor's request).
- Final Project Proposal Presentation: Each group will submit a summary technical poster that presents their design's attributes, capabilities and supporting analysis to prospective users of the design. Mondays 11/26 and 12/03 Thursday, 2018. *Note: Date/time/location are to be confirmed.*

## Grading Criteria:

- Grading will be based on both individual and group performances:
  - Assessment Report for Design Projects (Individual): 15%
  - Progress report (Individual): 15%
  - Project progress presentation (Group): 20%
  - Technical report on project proposal (Group): 25%
  - Project proposal presentation (Group): 25%
- Grade Proportion
  - A: 90-100%; B: 80-89%, C: 70-79%, D: 50-69%, F: Below 50%

## Academic Integrity

<http://www.purdue.edu/odos/osrr/academic-integrity/index.html>

Academic integrity is one of the highest values that Purdue University holds. Individuals are encouraged to alert university officials to potential breaches of this value by either emailing [integrity@purdue.edu](mailto:integrity@purdue.edu) or by calling 765-494-8778. While information may be submitted

anonymously, the more information that is submitted provides the greatest opportunity for the university to investigate the concern.

### **Purdue Honors Pledge.**

“As a boilermaker pursuing academic excellence, I pledge to be honest and true in all that I do. Accountable together - we are Purdue.” <https://www.purdue.edu/provost/teachinglearning/honor-pledge.html>

### **Diversity & Inclusion**

Purdue University is committed to maintaining a community which recognizes and values the inherent worth and dignity of every person; fosters tolerance, sensitivity, understanding, and mutual respect among its members; and encourages each individual to strive to reach his or her own potential. In pursuit of its goal of academic excellence, the University seeks to develop and nurture diversity. Purdue’s nondiscrimination policy can be found at: [http://www.purdue.edu/purdue/ea\\_eou\\_statement.html](http://www.purdue.edu/purdue/ea_eou_statement.html).

### **CAPS Information**

Purdue University is committed to advancing the mental health and well-being of its students. If you or someone you know is feeling overwhelmed, depressed, and/or in need of support, services are available. For help, such individuals should contact Counseling and Psychological Services (CAPS) at (765)494-6995 and <http://www.purdue.edu/caps/> during and after hours, on weekends and holidays, or by going to the CAPS office of the second floor of the Purdue University Student Health Center (PUSH) during business

**Campus Emergency:** *In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances beyond the instructor’s control. Here are ways to get information about changes in this course.* (i) Check on messages in for this course in Blackboard (ii) Instructors emails

## **EMERGENCY PREPAREDNESS**

*As we begin this semester I want to take a few minutes and discuss emergency preparedness. Purdue University is a very safe campus and there is a low probability that a serious incident will occur here at Purdue. However, just as we receive a “safety briefing” each time we get on an aircraft, we want to emphasize our emergency procedures for evacuation and shelter in place incidents. Our preparedness will be critical IF an unexpected event occurs!*

Emergency preparedness is your personal responsibility. Purdue University is actively preparing for natural disasters or human-caused incidents with the ultimate goal of maintaining a safe and secure campus. Let’s review the following procedures:

- For any emergency call 911.
- There are nearly 300 Emergency Telephone Systems throughout campus that connect directly to the Purdue Police Department (PUPD). If you feel threatened or need help, push the button and you will be connected to the PUPD.

- If we hear a fire alarm we will immediately evacuate the building and proceed to **East end of the Main Aisle of Stewart Center on the First Floor (Near the doors that go outside to the Memorial Union)**.
  - **Do not use the elevator.**
  - Go over evacuation route...see specific Building Emergency Plan.
- If we are notified of a Shelter in Place requirement for a tornado warning we will shelter in the lowest level of this building away from windows and doors. Our preferred location is **Grissom 103 (Large Classroom) or Grissom Hall B047**.
- If we are notified of a Shelter in Place requirement for a hazardous materials release we will shelter in our classroom shutting any open doors and windows.
- If we are notified of a Shelter in Place requirement for a civil disturbance such as a shooting we will shelter in a room that is securable preferably without windows. Our preferred location is **Grissom 103 (Large Classroom) or Grissom Hall B047**.

*NOTE: Each building will have different evacuation & shelter locations. The specific Building Emergency Plan will provide specific locations and procedures*

Please see the document ( BEP GRID plan.pdf) in blackboard on **GRISSOM HALL BUILDING EMERGENCY PLAN**



## EMERGENCY PREPAREDNESS SYLLABUS ATTACHMENT

**EMERGENCY NOTIFICATION PROCEDURES** are based on a simple concept if you hear a fire alarm inside, proceed outside. If you hear a siren outside, proceed inside.

- **Indoor Fire Alarms** mean to stop class or research and immediately **evacuate** the building.
  - Proceed to your Emergency Assembly Area away from building doors. **Remain outside** until police, fire, or other emergency response personnel provide additional guidance or tell you it is safe to leave.
  
- **All Hazards Outdoor Emergency Warning Sirens** mean to immediately seek shelter (**Shelter in Place**) in a safe location within the closest building.
  - Shelter in place means seeking immediate shelter inside a building or University residence. This course of action may need to be taken during a tornado, a civil disturbance including a shooting or release of hazardous materials in the outside air. Once safely inside, find out more details about the emergency\*. **Remain in place** until police, fire, or other emergency response personnel provide additional guidance or tell you it is safe to leave.

*\*In both cases, you should seek additional clarifying information by all means possible. Purdue Home page, email alert, TV, radio, etc. review the Purdue Emergency Warning Notification System multi-communication layers at [http://www.purdue.edu/ehps/emergency\\_preparedness/warning-system.html](http://www.purdue.edu/ehps/emergency_preparedness/warning-system.html)*

### **EMERGENCY RESPONSE PROCEDURES:**

- Review the **Emergency Procedures Guidelines**  
[https://www.purdue.edu/emergency\\_preparedness/flipchart/index.html](https://www.purdue.edu/emergency_preparedness/flipchart/index.html)
- Review the **Building Emergency Plan** (available from the building deputy) for:
  - evacuation routes, exit points, and emergency assembly area
  - when and how to evacuate the building.
  - shelter in place procedures and locations
  - additional building specific procedures and requirements.

### **EMERGENCY PREPAREDNESS AWARENESS VIDEOS**

- "Shots Fired on Campus: When Lightning Strikes," is a 20-minute active shooter awareness video that illustrates what to look for and how to prepare and react to this type of incident. See: <http://www.purdue.edu/securePurdue/news/2010/emergency-preparedness-shots-fired-on-campus-video.cfm> (Link is also located on the EP website)

### **MORE INFORMATION**

Reference the Emergency Preparedness web site for additional information:  
[http://www.purdue.edu/emergency\\_preparedness](http://www.purdue.edu/emergency_preparedness)

Schedule for NUCL449 - Fall 2018 -			
Week No.	Date	Topics	Remarks
1	08/20	Course Overview	Kim
2	08/27	Lecture on "Engineering Design"	Revankar
3	09/03	Labor Day	No class
4	09/10	Project presentation by Seth Spooner, Exelon	Project sponsor
5	09/17	Project presentation by Todd Smith, PhD and Jeff Kowalczyk, CHP, U.S. NRC	Project sponsor
6	09/24	Project presentation by Robert Abboud, RGA Labs, Inc.	Project sponsor
7	10/01	Project presentation by Faisal Odeh, Niowave Inc.	Project sponsor
8	10/08	October Break	
9	10/15	Project presentation by Tatli Emre, Westinghouse Electric Co. LLC. (Tentative)	Project sponsor
10	10/22	Lecture on "Documentation" / Design team selection	Kim
11	10/29	Lecture on Team Synergy	Revankar
12	11/05	Lecture on Ethics in Projects	Revankar
13	11/12	Presentation on design project progress (10 min. ea.)	All
14	11/19	Presentation on design project progress (10 min. ea.)	All
15	11/26	Presentation on design project proposal (15 min. ea.)	2 Teams
16	12/03	Presentation on design project proposal (15 min. ea.)	3 Teams

*The lecture schedule is tentative and is subject to change*