ITP 461, 462 & 464 SENIOR PROJECT PACKAGING CONCENTRATION INFORMATION MEETING

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ITP 461 Senior Project-Packaging
California Polytechnic State University

CAL POLY

Agenda

- Senior project requirements

- Course supervisors and enrollment

- Finding a project

- Communication

SENIOR PROJECT REQUIREMENTS

Course Learning Objectives

- Culminating experience by applying knowledge and skills gained through undergraduate courses to real-world issue.

- Provide a unique contribution to the current knowledge base by developing packaging solutions for a real-world issue.

- Acquire research, organizational and presentation skills by meeting project deliverables and formal report writing.

SENIOR PROJECT: FOUR OPTIONS

Senior Project Options

- Option 1

  - *Comparison of Multiformat Product-Packaging systems*- problem statement assigned by Dr. Saha. Enroll in ITP 461 winter and ITP 462 spring. May enroll in ITP 464 any quarter with Dr. Saha under special circumstances, for example conflict with internship or Coop.

- Option 2

  - Senior Project at Internship/Co-op (Enroll in ITP 464 with Dr. Saha)

- Option 3

  - Faculty initiated Packaging Project (Enroll in ITP 464 with supervising faculty- Dr. Saha is not responsible for your grades), could be group project 2-3 students.

- Option 4

  - Student initiated Project – Find a professor to supervise your project and enroll in ITP 464 with supervising faculty. Could be group project 2-3 students. (Dr. Saha is not responsible for your grades)

SENIOR PROJECT: OPTION – 1 (ITP 461 & 462 OR 464)
COMPARISON OF MULTIFORMAT PRODUCT-PACKAGING SYSTEMS

Option 1 :Foundational Knowledge

When enrolled in Option-1 senior project (ITP 461 & 462 or 464) the courses shown below should be completed preferably or co-enrolled. Example Syllabus on Canvas

- ITP 234 - Packaging Design

- ITP 330 Packaging Fundamentals

- ITP 341 Packaging Polymers and Processing

- ITP 408 Paper and Paperboard Packaging

- ITP 409 Packaging Machinery and Processes

- ITP 411 Packaging Sustainability

- ITP 475 Distribution Packaging Dynamics

Option 1: Problem Statement on Canvas

Products in Multiple Packaging Formats

a.

b.

10.5 oz

16.6 oz

a.

b.

c.

12 oz

7.7 oz

12 oz

PACKAGING SENIOR PROJECT PARADIGM:
OPTION - 2,3,4

Packaging Project Paradigm - Options 2 , 3, 4

For a project to be considered as a packaging senior project it should:

- Apply knowledge and skills that you gained in the courses mentioned on slide 15.

- Cleary define justification and need for the project.

- Executable in a twenty-week timeframe

- Option 2 – Individual project

- Option 3 & 4 - Group project: 2-3 students

Packaging Project Paradigm - Options 2 , 3, 4

Research in the area of the following fields can be considered as a potential packaging senior project.

- Packaging material development.

- Developing packaging system solutions which entails design and experimentation.

- Packaging sustainability and design with experimentation.

- Distribution packaging, testing and/or design with experimentation.

- Robust statistical analysis incorporated in the above-mentioned research areas.

Packaging Project- Major Elements - Options 2 , 3, 4

- Defining a packaging related problem statement.

- Formulating possible packaging solutions and hypothesis.

- Developing an experiment plan.

- Providing technical and statistical analysis.

- Generating a structured scientific report.

SENIOR PROJECT: OPTION – 2 (ITP 464)
SENIOR PROJECT AT INTERNSHIP/CO-OP

Option 2:Foundational Knowledge

When enrolled in Option-2 senior project (ITP 464). Should have completed at least **4** the courses shown below plus **STAT 217 or 218**.

- ITP 234 - Packaging Design

- ITP 330 Packaging Fundamentals (Available on Canvas)

- ITP 341 Packaging Polymers and Processing

- ITP 408 Paper and Paperboard Packaging

- ITP 409 Packaging Machinery and Processes

- ITP 411 Packaging Sustainability

- ITP 475 Distribution Packaging Dynamics

- STAT 217 or 218 - Statistical Analysis

Option 2- Course and Project Supervisors

Faculty Advisor

- Koushik Saha

- Coordinates administrative tasks.

- Oversees project approval process.

Option 2- Course and Project Supervisors

Technical Advisor

- Internship Supervisor

- Oversees technical progress of project.

- Provides feedback.

Option 2 – Steps to take

Senior Project at Internship/Co-op

- Make a zoom appointment with me to discuss before going for internship/Co-op.

- Share industry guideline for senior project with Internship supervisor to seek approval. This can be done when you at the start of the internship.

- Develop a project proposal (download form from Canvas).

- Students will submit project proposal.

- Project proposal will be reviewed by me. Decision deliberated <u>asap</u>.

- Will conduct senior project research at internship/Co-op.

- Students with **approved project proposal will be permitted to enroll in ITP 464 in the quarter they return to campus**.

Option 2 – Form on Canvas

Senior Project at Internship/Co-op

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ITP 464 SENIOR PROJECT-PACKAGING
GUIDELINES FOR INDUSTRY-BASED SENIOR PROJECTS

The senior project in Industrial Technology & Packaging (ITP) provides the culminating experience to the students in the academic program. The project will be independent work by the student, developed on a timetable and based on certain course requirements. Typical ITP senior project involves solving a focused and practical real-world issue in one of the following areas:

1. Packaging material development.
2. Developing packaging system solutions which entails design and experimentation.
3. Packaging sustainability and design with experimentation.
4. Distribution packaging, testing and/or design with experimentation.
5. Robust statistical analysis incorporated in the above-mentioned research areas.

COURSE LEARNING OBJECTIVES:

1. Culminating experience by applying knowledge and skills gained through undergraduate courses to real-world issue.
2. Provide a unique contribution to the current knowledge base by developing packaging solutions for a real-world issue.
3. Acquire research, organizational and presentation skills by meeting project deliverables and formal report writing.

PROJECT DELIVERABLES:

1. Defining a packaging related problem statement.
2. Formulating possible packaging solutions and hypothesis.
3. Developing an experiment plan.
4. Providing technical and statistical analysis.
5. Generating a structured scientific report.

Page 1 of 5

ITP 464
SENIOR PROJECT PROPOSAL-INTERNSHIP/CO-OP

Date:	
Student Name (s):	Email(s):
Technical Advisor Name:	Email:
Proposed Project Title:	

Statement of Work: project objective and justification

Tasks: List of anticipated tasks including tentative experimental plan

Related to Packaging Courses (required and elective) (skills and knowledge):

Deliverable details:

SENIOR PROJECT: OPTION – 3 & 4 (ITP 464)
FACULTY OR STUDENT INITIATED PACKAGING PROJECT

Option 3 & 4- Course and Project Supervisors

Advisor

- Oversees course and technical progress of project.
- Assigns course grade.
- Ajay Kathuria
- Javier de la Fuente
- Jay Singh
- Joongmin Shin
- Identify a partner and approach a professor if they have any projects where they may consider you to be their senior project student. (They will be volunteering their time)
- Enroll in ITP 464 with any of the above professors as per their advice

Option 4 – Steps to take

Senior Project Student Initiated

- Identify a partner/s to work on a senior project. You can use Discussion forum on Canvas.

- Develop a project proposal (download form from Canvas).

- Identify a professor who is willing to serve as your advisor as shown on previous slide by sharing proposal (they will be volunteering their time)

- Enroll in ITP 464 with any of the above professors as per their advice

Option 4 – Form on Canvas

Senior Project student initiated

PAST PACKAGING PROJECTS – FACULTY SPONSORED

Packaging Project Titles

- Utilization of Agricultural Waste Fibers (Carrot Pomace) for manufacture of paper

- The Impact of Container Material and Design on its Bulging Performance in Static and Dynamic Distribution Environment: Part 1

- The Impact of Container Material and Design on its Bulging Performance in Static and Dynamic Distribution Environment: Part 2

- Green Coatings – II

- Designing an insulated wine bottle shipping package for small parcel shipping environment

COMMUNICATION

Communication

- Encouraged to meet with me in my <u>virtual office</u> or Rm 3-433 during office hours.
  - Fall-Tuesday/Wednesday/Thursday 10:00-11:00am
  - Winter-Tuesday/Wednesday/Thursday 1:00- 2:00pm
  - Spring- Fall- Monday/Tuesday/Wednesday 10:00-11:00am
- If you are unable to meet during office hours, then schedule a 20 minute appointment via Outlook. My calendar is up to date and you can see my availability.
- Only use <u>Cal Poly email</u> to communicate with me.
- Email: <u>ksaha@calpoly.edu</u>
- Virtual office: <u>https://calpoly.zoom.us/my/koushiksaha</u>

QUESTIONS?