

ENGG 4930C Design for Global Health (3 Credits)

2019-2020 Spring

Course Details

SIGHT Teaching Team

| Name | Email | Office |
|--------------------------------------|--|---------------|
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| Joel YU | joelyu@ust.hk | 2513 |
| Kristopher LAM | kristopher@ust.hk | 2513 |
| Fariza ZHORABEK [Teaching Assistant] | fzhorabek@connect.ust.hk | |

Faculty Advisors

| Project Name | Faculty Advisor | Email |
|--|------------------------|--|
| Anaemia in the Dang district of Gujarat - Gujarat, India | Prof. Sujata VISARIA | svisaria@ust.hk |
| | Prof. Marshal YS LIU | keysliu@ust.hk |
| Learning and playing aids for special needs students - Caritas Lok Kan School, Hong Kong | Prof. Rhea P LIEM | rpliem@ust.hk |
| | Prof. Siu-woo Cheung | hmcheung@ust.hk |
| | Prof. Vincent LI | emvli@ust.hk |
| Eye health outreach and education - Hong Kong | Dr. Ngok LAM (Alex) | lamngok@cse.ust.hk |
| | Prof. May-yi SHAW | myshaw@ust.hk |

Time slots: 3 hours per week

- Every Thursday, 18:00-19:30 (1.5 hours)
- Additional Team Time: 1.5 hours per week (based on each team members' and advisors' availability)

Course Outline

- The schedule may be subject to minor changes depending on the circumstances.

- The arrangements for different teams may vary slightly based on project nature.

| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|----------|-----|------------------------|-----|-------------------|-----|-----------------|
| February | | | | | | 1 |
| 2 | 3 | 4 | 5 | No Class | 6 | 7 |
| 8 | | | | | | |
| 9 | 10 | 11 | 12 | No Class | 13 | 14 |
| 15 | | | | | | |
| 16 | 17 | 18 | 19 | Class | 20 | 21 |
| 22 | | | | | | |
| Week 1 | | Add/Drop Period | | Kickstart & Intro | | Team Time |
| | | Spring Term starts | | Confirm Team Time | | |
| 23 | 24 | 25 | 26 | Class | 27 | 28 |
| 29 | | | | | | |
| Week 2 | | Team Time | | Team Work | | Add/Drop Period |
| | | Literature Review prep | | | | |

- Week 1**
- Kickstart Meeting/Introduction to SIGHT ENGG 4930C project course – “Design for Global Health”
 - Confirm team time
 - Skills assessment for the team
 - Finalize Project Objectives during the 1st Team Meeting
- Week 2**
- Team Work
 - Prepare for Literature Review

| | Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|--------|-----------------|-----------|---|-----|-------|-------------------|--------------------------------|
| | March | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Week 3 | Add/Drop Period | | | | Class | Literature Review | Add/Drop Period |
| | | Team Time | Literature Review Communicate with partners to finalize objectives | | | | |
| | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| Week 4 | Add/Drop Period | | | | Class | Team Work | |
| | | Team Time | Team Work | | | | |
| | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| Week 5 | | Team Time | 1 st Internal Check | | | Class | 1 st Internal Check |
| | | | | | | | |
| | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| Week 6 | | Team Time | 1 st Internal Check Communicate with partners for feedback | | | Class | 1 st Internal Check |
| | | | | | | | |
| | 29 | 30 | 31 | | | | |
| Week 7 | | Team Time | Team Work Submission of Advisor Meeting Report | | | | |

- Week 3**
- Extensive Literature Review on existing solutions/technologies & global market:
 - Each Team has to present for 1 hour plus 15 minutes of Q&A during their Team Meeting
 - Communicate with partners and finalize project objectives

- Week 4**
- Team Work

- Week 5**
- 1st Internal Check for chosen teams

- Week 6**
- 1st Internal Check for chosen teams
 - Communicate with partners and update the results/feedback of the 1st Internal Check

- Week 7**
- Submission of Advisor Meeting Report

| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|---------|-----------------------|-----------------|---|--|---|-----------------------------------|
| Week 7 | April | | 1 Team Time | 2 Class Team Work Submission of Advisor Meeting Report | 3 | 4 Ching Ming Festival 🏮 |
| Week 8 | 5 | 6 Team Time | 7 2 nd Internal Check | 8 Class 2 nd Internal Check | 9 Good Friday + | 10 Day following Good Friday 🏮 |
| Week 9 | 12 Easter Monday 🐰 | 13 | 14 Team Time | 15 2 nd Internal Check Communicate with partners for feedback | 16 Class 2 nd Internal Check | 17 |
| Week 10 | 19 | 20 Team Time | 21 Team Work | 22 Class Team Work | 23 | 24 |
| Week 11 | 26 | 27 Team Time | 28 Team Work Prepare for Roadshow | 29 Buddha B-day 🙏 | 30 | |

Week 7 • Submission of Advisor Meeting Report

Week 8 • 2nd Internal check for chosen teams

Week 9 • 2nd Internal check for chosen teams
• Communicate with partners and update the results/feedback of the 2nd Internal Check

Week 10 • Team Time

Week 11 • Prepare for Roadshow
• Submission of Roadshow posters

| | Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|---------|--------|-------------------|--------------------------------|-------------|-------|------------------------------|--------|
| Week 11 | | May | | | | Labor Day 1 | 2 |
| | | | | | | | |
| Week 12 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| | | Team Time | Prepare for Roadshow | | Class | Roadshow At Concourse/Atrium | |
| Week 13 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | Team Time | Peer Evaluation | | Class | Course Debrief | |
| | | | Final Documentation submission | | | | |
| Week 13 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| | | Last Day of Class | | Study Break | | | Finals |
| | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| | | Finals | | | | | |
| | 31 | | | | | | |
| | Finals | | | | | | |

Week 12 • 2-Day Roadshow at Concourse/Atrium

Week 13 • Submission of Final Documentation
• Course debrief
• Peer Evaluation

Assessment scheme

| Assessment components | Percentage |
|---|------------|
| Literature Review: Presentation on existing solutions & global market | 15% |
| Internal Check ×2 | 20% |
| Final Roadshow | 20% |
| Final Documentation & Advisor Feedback Report | 20% |
| Personal Reflection | 5% |
| Communication with partner | 10% |
| Peer Evaluation | 10% |

Literature Review: Presentation on existing solutions & global market

Each team will have a 60-minute presentation plus 15-minute Q&A. The content and presentation skills, such as coherence and use of visual aids, will be evaluated.

Information should be gathered from literature and other resources. An in-depth understanding and analysis of the potential users and existing solutions/products are expected. Students should be familiar with the situation and dynamics of the population and areas to be served. The review should also provide/identify:

- A solid background on the project problem
- Similar technologies/solutions currently used in other communities
- Strengths and weaknesses of existing solutions
- Any gaps in existing solutions, and
- Hence the opportunities to make your proposed solution distinctive to these existing solutions

Internal Check ×2

The prototypes will be tested on campus, in a setting simulating the real situation. The performance of prototype and the proficiency in collecting information from such testing will be evaluated.

Teaching team will design goals/milestones for each Internal Check, based on the initial objectives set by the team. Students are expected to obtain as much information as possible from the test, and incorporate the findings into the next round of iteration.

Final Roadshow

The Final Roadshow will be held at a public venue at HKUST to showcase your project to the UST community. The Roadshow should include the background and scope of the project, rationale and evolution of the design, demonstration of the prototype and introduction of the implementation plan. Guests with relevant expertise and experience would be invited, such as SIGHT advisors,



consultants, representatives from NGOs and social enterprises. The presentation is also open to UST community. For evaluation, each team will have 15 minutes for demonstration and 15 minutes for Q&A.

Final Documentation

This report will likely be the key (or even only) document where students can pick up where you have left off. So you need to pass over all related files to us to be uploaded to [SIGHT's GitHub](#), such as detailed description of your prototype, software codes with comments (if coding was involved), design files (pictures and figures to illustrate your prototypes, 3D modelling files), user manuals, results of user tests, feedback from partners, etc.