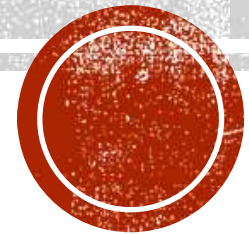


INTEGRATED DESIGN PROJECT (IDP)



REGISTRATION PREPARATION GUIDELINES

1. Every student need **to read** carefully the details of IDP in following slides.
2. Group representative needs **to register** group members by filling up google document and make sure all requirements are fulfilled by 26th June 2020.
(https://docs.google.com/document/d/1AMqdw1J17gJHTie_7XLL7iedVp-mpqZb5NaNhpO6cy8/edit?usp=sharing)
3. Each group needs **to search** for a supervisor, **obtain** supervisor agreement and **to discuss** project detail.
4. Group representative needs **to register** title registration by filling up google form within week 3 session 20202021.
(<https://forms.gle/dF7DMxz1xCwDq2Y47>)



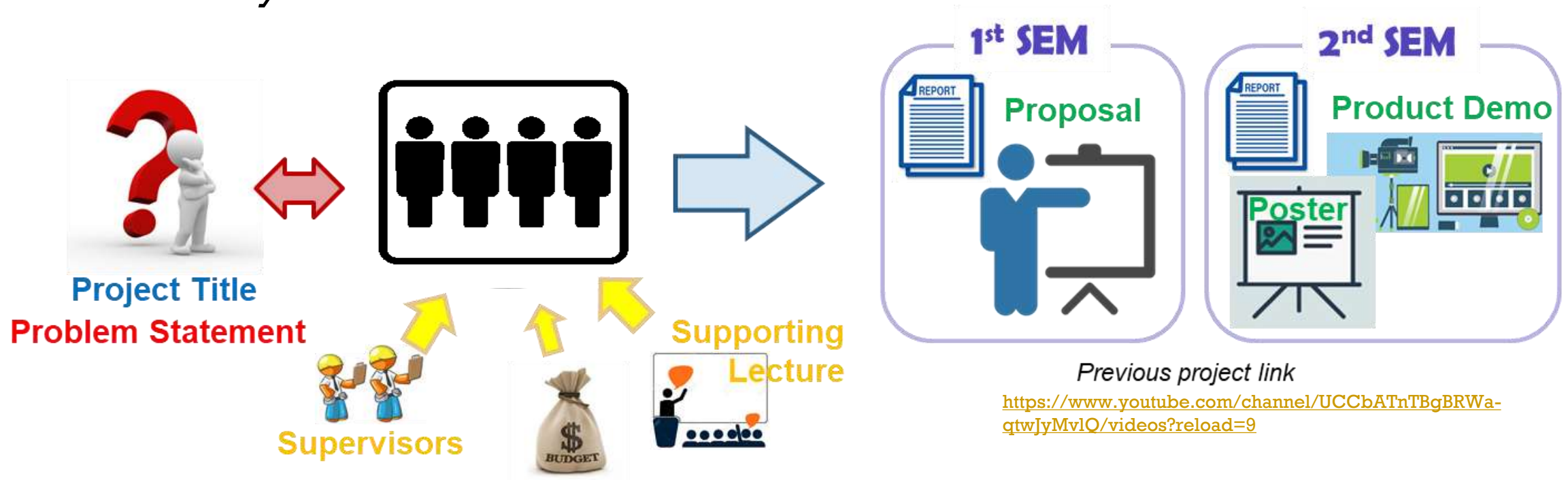
REGISTRATION PREPARATION GUIDELINES

5. There will be 3 themes as follows:
 1. Leveraging technology for pandemic mitigation
 2. Smart system in developing human-centred society
 3. Innovating technology for securing future energy
 6. Each group can choose one supervisor in that 3 themes (1 lecturer is allowed to supervise one group)
 7. Student can check the list of supervisor in Departmental website from 15th June 2020.
- *Do not forget to register KIX2001 in registration system in semester 1 and KIX3001 in semester 2 for those who meet the requirements.**



INTEGRATED DESIGN PROJECT

- *The integrated design project course are senior-level project design courses that require students to use all their **engineering knowledge** to **solve a real-world engineering problem** or **develop a viable product** with consideration of sustainability and social factors.*



COURSE LEARNING OUTCOMES

KIX2001

At the end of the course, students are able to:

1. Conceptualize design solution of an engineering design to a defined end state.
2. Function effectively as an individual, and as a team member or a leader.
3. Communicate effectively on complex engineering activities through reports and presentations.



COURSE LEARNING OUTCOMES

KIX3001

At the end of the course, students are able to:

1. Perform technical investigation and analysis of the proposed design.
2. Implement project management and/or economic feasibility study of the proposed design solution.
3. Apply ethical principles, standards and professional engineering code of ethics.
4. Function effectively as an individual, and as a team member or a leader.
5. Communicate effectively on complex engineering activities through reports and presentations.
6. Evaluate the sustainability impact on the design solution.



REQUIREMENT & DETAIL

1 group: 4 members, 1 supervisor, (co-supervisors)

KIX2001

- 2 credits
- Completed 50 credit hours

KIX3001

- 4 credits
- KIX2001



SCHEDULE

KIX2001, Semester 1: 14 weeks	KIX3001, Semester 2: 14 weeks
<p data-bbox="191 282 1044 332">7 weeks of lectures (2 hours/week)</p> <p data-bbox="191 347 560 396"><u>Lecture Topics:</u></p> <ul data-bbox="191 411 1192 1082" style="list-style-type: none"><li data-bbox="191 411 509 446">• Hackathon*<li data-bbox="191 468 1154 625">• Introduction to Integrated Design Project (guidance) and, product design and development<li data-bbox="191 639 1192 739">• Development processes and organizations, and product planning<li data-bbox="191 753 853 789">• Identifying customer needs<li data-bbox="191 811 1019 911">• Product specifications and concept generation<li data-bbox="191 925 904 961">• Concept selection and testing<li data-bbox="191 982 695 1018">• Product architecture<li data-bbox="191 1039 670 1075">• Sustainable design <p data-bbox="191 1160 445 1203">Week 8-14</p> <ul data-bbox="191 1225 675 1396" style="list-style-type: none"><li data-bbox="191 1225 675 1268">• Weekly meetings<li data-bbox="191 1289 649 1332">• Project proposal<li data-bbox="191 1353 828 1396">• Presentation (last week)	<p data-bbox="1289 282 1549 325">Week 1-13</p> <ul data-bbox="1289 347 1770 396" style="list-style-type: none"><li data-bbox="1289 347 1770 396">• Weekly meetings <p data-bbox="1289 475 1498 518">Week 14</p> <ul data-bbox="1289 539 2211 711" style="list-style-type: none"><li data-bbox="1289 539 1821 582">• Final Project report<li data-bbox="1289 604 2211 711">• Final poster presentation & Product Demonstration



<u>Assessment Criteria</u>	<u>Elements</u>
Design process (50%) Assessed in <ul style="list-style-type: none"> • Proposal report • Presentation 	<ol style="list-style-type: none"> 1. Design structure approach 2. Complexity of the design problem 3. Quality of the design solution 4. Project objectives 5. Innovative & creativity
Teamwork (25%) <ul style="list-style-type: none"> • Weekly meetings 	<ol style="list-style-type: none"> 1. Delegation and fulfillment of responsibilities 2. Focus and punctuality 3. Team communication 4. Peer review
Communication (25%) <ul style="list-style-type: none"> • Proposal report • Presentation 	<ol style="list-style-type: none"> 1. Writing Mechanics 2. Oral Performance 3. Graphical Representations 4. Organisation and Clarity 5. Content



<u>Assessment Criteria</u>	<u>Elements</u>
Technical investigation and analysis (40%) Assessed in <ul style="list-style-type: none"> • Final report • Poster & Demo 	1. Technical investigation and analysis 2. Use modern tools 3. Detailing competency 4. Project objectives 5. Innovative & creativity
Project management and/or economic feasibility study (12%) <ul style="list-style-type: none"> • Final report 	1. Risk management 2. Schedule 3. Resources 4. Budget
Ethical principles, standards (12%) <ul style="list-style-type: none"> • Final report • Poster & Demo 	1. Identify relevant standard testing procedures 2. Safety and health considerations 3. Societal considerations 4. Similarity index 5. Citation



Assessment Criteria

Elements

Teamwork (12%)

- Weekly meetings

1. Delegation and fulfillment of responsibilities
2. Focus and punctuality
3. Team communication
4. Peer review

Communication (12%)

- Final report
- Poster & Demo

1. Writing Mechanics
2. Oral Performance
3. Graphical Representations
4. Organisation and Clarity
5. Content

Sustainability impact (12%)

- Final report
- Poster & Demo

1. **Environmental** (optimized usage of resources, used of recovered and renewable resources, protected ecosystem, minimise or eliminate emission of hazardous substances).
2. **Social** (Addressed community and stakeholder requests, considered local circumstances and cultures, protected human health and well-being requests).
3. **Justification for sustainability** (Incorporated life cycle approach to design, incorporated life cycle engineering design tools, used innovative technologies to achieve sustainability).

