# CREST u-GRASP Program

*Guidelines for 2019 Funding Application*

# Content

| | | **Page** |
|---|---|---|

# Introduction

**CREST u-GRASP Program** is a funding program under CREST R&D Talent Development and was launched in January 2019.

The program objectives as as follow:

- To attract, seed and nurture <u>talent for postgraduate studies </u>in relevant research areas which are aligned to CREST Key Cluster areas.

- To provide an incentive for final year students to take-up <u>industry-relevant undergraduate final year research project</u>.

- To introduce and develop the participant's <u>knowledge and skills in research, development and presentation of an industry-relevant research project</u>.

# Program Details

**CREST u-Grasp Program**

- This program is open to final year students who are interested to undertake an industry-relevant undergraduate final year research project.

- Project duration can only be 1 academic year (which is in final year).

- 1 student per project

- A project funding of RM1500 will be awarded to participants under this program.
  - RM1500 consist of RM500 as allowance and RM1000 for project materials

- The award of the project fund is with the agreement that the student is required to utilize the fund to complete a u-GRASP Project based on the approved proposal/application AND present their completed project (Final Project Presentation) to CREST on a date confirmed by CREST (before the end of the student's final year semester/graduation).

- The project must be conducted between the fund award date until the presentation date to CREST (before end of the student's final year semester/graduation date).

- The agreement for this project funding is between CREST and the student only. Thus, the project funding will be disbursed directly to the student.

# Criteria of Applicants

- Malaysian undergraduate students from public and private universities in Malaysia, that will undertake their mandatory final year project in 2019 academic year.

- Applicants must be from Engineering, Science, Technology or from relevant disciplines.

- Applicants must be final year students undertaking their final year project as part of existing/approved CREST R&D Grant Projects.

- The Research Grant agreement must be signed before the application for the u-GRASP Program can be evaluated and process.

- At the point of application, applicants must posses a minimum CGPA of 3.00 and above for Bachelor's degree in the relevant and related field.

- At the point of application, applicants must be in Semester 1 Final Year or in FYP 1 stage.

- The u-GRASP project scope must be deemed relevant to CREST Key Cluster areas and is approved by CREST via a formal application.
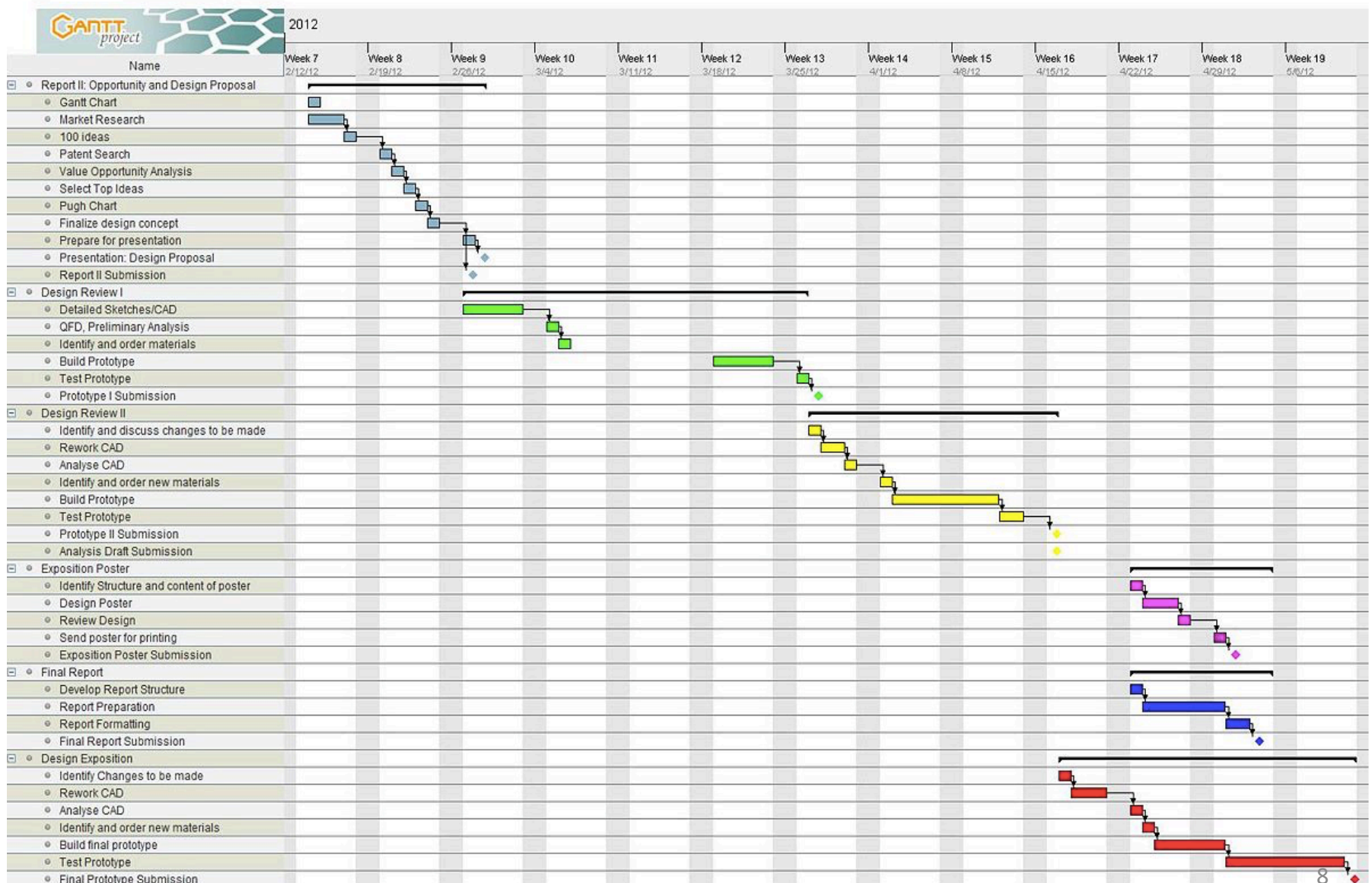
# Criteria of Proposal

1. Applicants are required to submit the CREST u-GRASP Application Form, detailed technical proposal via powerpoint slides and/or other supporting documents (i.e. video, etc) as listed in the application form.

2. Applicant must submit the application documents via CREST online platform https://cresttgl.innovasianspace.net/e/crestugrasp by the given deadline:

   ➢ Cycle 1 : Application deadline latest by 31st May 2019
   ➢ Cycle 2: Application deadline latest by 31st October 2019

3. Each applicant must appoint a minimum 1 Project Supervisor from university **AND** 1 Industry Project Supervisor.
   ➢ Your main project supervisor must be your final year project supervisor which must also be a researcher under the existing/approved CREST R&D Grant Project.
   ➢ You are required to appoint 1 industry supervisor from the existing/approved CREST R&D Grant Project. Industry Supervisor must have relevant expertise and background to the project and able to provide feedback during 1st Check Point/Project Progress Update.

4. CREST reserves the right to reject any applications received after the deadline and any applications which are incomplete.
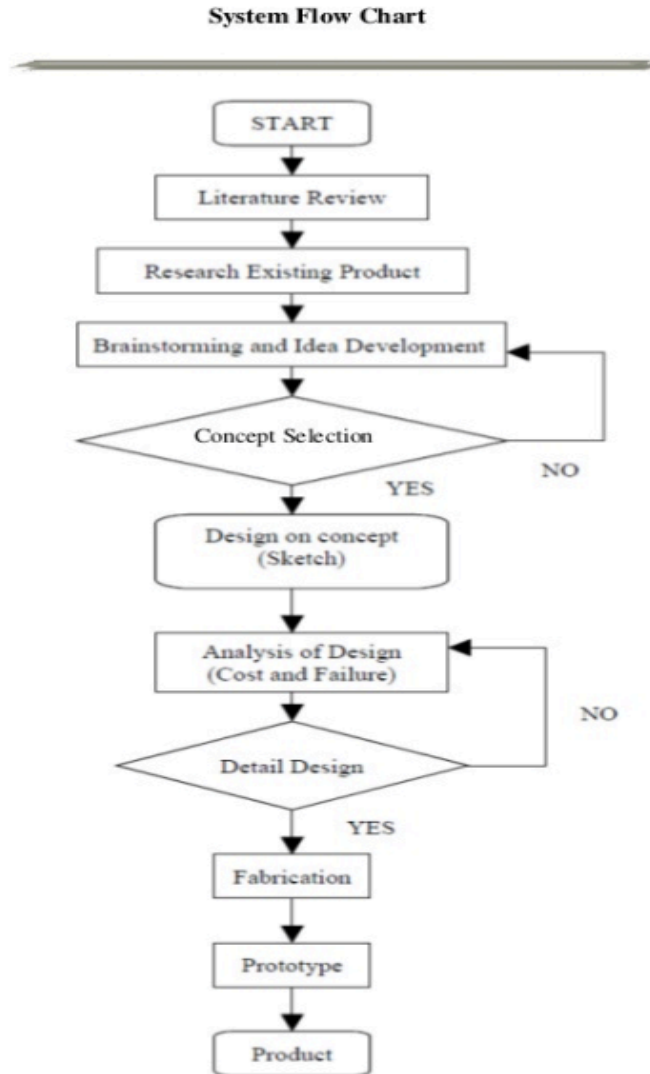
# Criteria of Proposal

**Project Project Timeline (refer to CREST ʊ-GRASP Program Application Form)**

1. As part of the application required details, all applicant must submit a proposed project timeline.

2. Please utilise a Gantt Chart/suitable project management template to indicate your proposed project planning. This project timeline will be used to determine the 1st Check Point/Project Progress Update date.

3. Sample of Gantt Chart and Flow Chart of Project Activities is on the next page:

# Criteria of Proposal

# Criteria of Proposal

**System Flow Chart**



Flow Chart 1.2

Details in the Flow Chart of Project Activities must be similar to the Gantt Chart.

# Criteria of Proposal

**Guideline for Bill of Materials and Budget (refer to CREST u-GRASP Program Application Form)**

1.  As part of the application required details, all applicant must submit a detailed proposed project budget. The budget must include specific details and cost of any components/software/items to be be used in the project materials and demo. As an example, you would have to create a Bill of Materials for your project and list down cost for the items. i.e Arduino board, Resistor 1kOhm, server rental cost, IBM Bluemix subscription fee. Sample is as below:

| Components | Number | Price per Unit (RM) | Total(RM) |
|---|---|---|---|
| PIR sensor | 2 | 25.00 | 50.00 |
| Ultrasonic sensor | 2 | 39.00 | 78.00 |
| Resistor | 20 | 0.05 | 1.00 |
| Arduino Uno Board | 1 | 70.00 | 70.00 |
| Switch | 1 | 1.00 | 1.00 |
| LED lights | 20 | 0.10 | 2.00 |
| | | **Total Cost** | 202.00 |

# Criteria of Proposal

**<u>Guideline for Bill of Materials and Budget (refer to CREST u-GRASP Program Application Form)</u>**

2. Applicant may include cost of materials for prototype demo and poster for the Final Project Presentation in the proposed project budget.

3. Any travelling cost for the Final Project Presentation must be utilised from your RM500 allowance and therefore should be included in the proposed project budget.

4. Please upload a detailed explanation and design details via a Powerpoint slides to the on-line platform in order to elaborate your project proposal.

# Application Review & Approval

**Application Review**

1. Applicants will be **required to attend an interview with CREST** together with the project supervisors (university supervisor is mandatory). The interview process will consist of a presentation on the proposed project by the applicant.

2. All complete application will be review by CREST and appointed industry judges. Judging criteria will be the same as follow:

   • Design  (How much does the project meet the design objectives?): **40%**
   • Innovation (Is this a new way of doing things?   How strong is the value proposition?): **30%**
   • Project Value (How much impact the community/ industry needs? How big is the market?): **30%**

3. CREST reserves the right to reject any application which is incomplete or are not recommended by the panel of judges.

4. Announcement of the shortlisted applicants will be announced via e-mail.

# Application Review & Approval

**Fund Approval**

1. Upon application approval, the student will be given a Letter of Award and 2 copies of Project Funding Agreement from CREST.

2. The project supervisor will also be given a project supervisor appointment letter from CREST.

3. Student will be required to signed the Project Funding Agreement to ensure:

   • With the award of the project seed fund, the student are required to utilize the fund to complete a u-GRASP Project based on the approved proposal/application AND present their completed project to CREST on a date confirmed by CREST

   • In the event that the student is unable to complete the project or attend the final project presentation, the student will be required to refund the **full project fund amount** back to CREST.

   • Full terms & conditions will be outlined in the Project Fund Agreement.

# Application Review & Approval

**Fund Approval**

3.  Upon application approval, the student will be required to submit further supporting document together with 2 signed copies of the Project Funding Agreement. Supporting documents required are as below:

    - Copy of Identity Card (IC)

    - Student's copy of bank account statement/bank book (page where details of the bank account are stated). This is for project fund disbursement.

    - Letter of Support from the Project Supervisor/s (sample letter will be provided)

    - Letter of Student Status Confirmation by the University/Faculty (sample letter will be provided).

# Disbursement of Fund

1. Once all required documents has been received by CREST, we will process and disburse the project fund into the student's bank account.

2. Disbursement of fund are as follows:
   - **Stage 1**: RM500 at upon CREST's approval of the application AND receipt of agreement documents
   - **Stage 2**: RM500 the end of semester 1 of final year. Individual must submit to CREST a copy of final year project proposal that was submitted to the university. The Project Title must the **same** as stated in the application form for CREST Undergraduate Research Project.
   - **Final Stage**: RM500 after 1st Check Point/Project Progress Update (mid of project). Project progress must be considered satisfactory to CREST.

3. Student must compile and record all original receipts from Project Materials expenditure (RM1k) via a Spending Report and submit to CREST latest by the Final Project Presentation date. Any changes in Project Materials must be notified prior to the Final Project Presentation date via a Change Request Form.

# Project Progress Evaluation

- During the agreed 1$^{st}$ Check Point/Project Progress Update date, student are required to submit proof of project progress (video, Powerpoint, photos, etc) to CREST before the final stage RM500 fund disbursement.

- The 1$^{st}$ Check Point/Project Progress Update can be earlier than the agreed date provided that the applicant has fulfil the required milestone.

- CREST reserves the right to delay further fund disbursement/request for full project funding refund to CREST, if found that the project progress is not according to satisfactory standard according to the agreed milestone.

# Final Project Presentation

- The Final Project Presentation to CREST will be on a date to be confirmed by CREST (before the end of the student's final year semester/graduation) at CREST Office, Penang or a venue decided by CREST.

- All participants are required to prepare the following items:
  - Presentation slides
  - Working prototype

- Further details on the event will be send to you in later date.

# CREST Cluster Focus

| Cluster | 1. Opto-electronics, LED and Solid State Lighting | 2. Embedded System & Internet of Things | 3. IC Design, Test & Validation | 4. Advance Materials & Packaging | 5. World-Class Electronics Manufacturing | 6. Drones, Driverless & Autonomous Vehicle |
|---|---|---|---|---|---|---|
| **Technology Domain Area** | Compound semiconductor engineering (III-V) | Data Analytics, Big Data Science ——— Security | Advanced testing (IC/Board/SW) - Probe cards, JTAG | Semiconductor device packaging - Multi-chip packaging (TUV, TSV) | Industrial Automation & Robotic | Autonomous aerial vehicle technology |
| | Thermal materials | Advanced wireless communication | IC Design automation | Cheaper Epoxy/Materials for Mass-Market Optoelectronics | Low Volume, High Mix (adaptable mfg) | Gyroscopic stabilisation system |
| | Advanced Polymers | Sensors & Sensing | | Compound semiconductor engineering (III-V) | Smart factory, IoT in manufacturing | Closed-loop digital control system |
| | High Power Electronics Interconnect | Energy systems - harvesting, storage, management | Advanced Logic Emulation | Nano-materials and structures for interconnects, circuitry, thermal management | Additive Manufacturing & 3D Printing Technology | GPS and geo-fencing technology |
| | Optical Inspection of semi-translucent surface | Organic, Printable electronic | | | Integrated Design to Manufacturing, Supplier in Design | Navigation and guidance |
| | Smart / Autonomous Lighting System | Wearables | UI/UX-specific SoC/IC/FPGA design | Materials for 3D printing, inkjet printing | Connected Supply Chain | Lightweight materials |
| | | Market Focus - healthcare, transportation, manufacturing, retail, smart city | | | Computer Integrated Mfg; Efficient Mfg Scheduling System | Energy efficient drives |

# Our Current Focus Areas

**Connected Healthcare**

**Precision Farming**

**Future Transportation**

**Digital Manufacturing**

**Smart Sustainable Living**

Enable Growth in Emerging Markets
Leveraging Our Capabilities in E&E
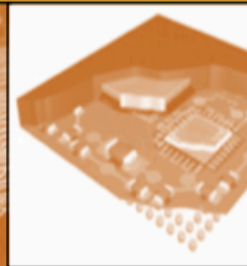
**Our Core Areas:**

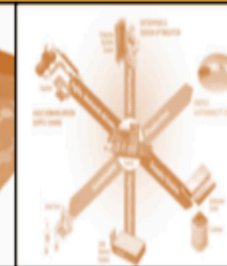| | LED & Solid State Lighting | Embedded System & IoT | IC Design, Test & Validation | Adv. Materials & Packaging | Industry 4.0 | Drones & Autonomous Vehicle |
|---|---|---|---|---|---|---|
| Collaborative R&D | | | | | | |
| Talent Development | | | | | | |
| Commercialisation | | | | | | |

CREST

*not limited to shown areas; redefined every 2 years and based on market needs*

**THANK YOU**