

MALAYSIA INDUSTRIAL MATHEMATICAL MODELLING CHALLENGE 2020 (MIMMC2020)

RULES AND REGULATIONS

A. PARTICIPATION

- The challenge is opened for teams of undergraduate students from all institute of higher education (universities, polytechnics, colleges) in Malaysia.
- Each team must comprise of exactly **3 members and a mentor from the same institution.**
- The mentor must be an **academic staff** of the institute of higher education.
- **A mentor** can only supervise at most **TWO (2) teams.**
- **Each student** is allowed to participate in only **ONE (1) team.**
- Each team will be assigned a Team ID Number once the registration is confirmed.
- Any change of team members, mentor or any other information must be made latest by **27 February 2020 (Thursday)** to utmciam@utm.my.
- Any correspondence must be using mentor's registered email address with Team ID Number as the subject of the email.
- Each team is expected to work within the group. Teams are not allowed to **seek help in obtaining the answer from anyone** in a position to supply them with information reflecting experience or professional expertise.
- All participants will be given a certificate of participation by post.
- Teams should regularly visit the website for any announcement on modifications or changes to the dates or regulations.

B. REGISTRATION

- Teams must be registered by **25 February 2020 (Tuesday)**.
- Late registration will **NOT** be accepted.
- The mentor is expected to register for his/her team. The mentor's registered e-mail should be used in any correspondence between the team and MIMMC2020 secretariat from then on including the submission of the solution.
- A fee of RM150 per team is to be paid prior to registration. **Proof of payment** must be included during registration.
- Fees paid **will not be fully refunded** under the following circumstances:
 - a. Cancellation before 2nd March 2020
 - b. Rules and regulations are not followed
- Fees paid **will not be refunded** under the following circumstances:
 - a. Cancellation after 2nd March 2020
 - b. No solution received by 5 pm on 25th March 2020
- Steps for registration:
 1. Pay RM150 registration fee by bank transfer to the following account:

Account Holder: Bendahari UTM
Bank Name: CIMB
Account No. : 8006053536
 2. Go to <http://ciam.utm.my/mimmc2020/>, click **Registration tab** to register.
 3. Fill in the online registration form and upload the proof of payment.

4. Please allow up to 7 working days for the secretariat to process the fee payment before confirmation of payment can be issued.
5. Once the payment is confirmed, the team will receive a confirmation of participation together with MIMMC2020 team ID Number by email. Please use the team ID Number as the email subject for any correspondence from then on.

C. THE CHALLENGE

- The challenge begins at **11.00 a.m. (Malaysia Time) on 2 March 2020 (Monday)**.
- The challenge ends at **5.00 p.m. (Malaysia Time) on 25 March 2020 (Wednesday)**.
- Each team **must** email the softcopy of their solutions and the team photo in JPEG to utmciam@utm.my before the challenge ends.
- Solution Submission:

Item	Format	Example
Email subject	MIMMC2020 SOLUTION: <Team ID Number>	MIMMC2020 SOLUTION: ABC1234
Solution File	MIMMC2020_<Team ID Number>_solution	MIMMC2020_ABC1234_solution

- Notification of solution acceptance will be sent to mentor's registered e-mail address.

D. CHALLENGE PROBLEM

- Problem will be uploaded/posted in the MIMMC2020's website at **11.00 a.m. (Malaysia Time) on 2 March 2020 (Monday)**.
- The problem must be solved using mathematical approaches.
- More than one model can be used in solving the problem.

E. TEAMS WRITTEN SOLUTIONS

- The template of the solutions can be downloaded from MIMMC2020's website.
- Solutions can either be in Bahasa Malaysia or English.
- Solutions must be typed and must not exceed 25 pages.
- Solutions must be in PDF file.
- Use Times Roman with font size 12 and 1.5 spacing.
- List of references must be included at the end of the solution.
- The competition will be judged based on the submitted solutions.
- The evaluation of the solution will be based on the following **criteria**:
 1. Comprehensiveness of the abstract/summary that includes problem description, outline of the model, the advantages of the approach and the conclusion.
 2. Clear methodology used with justifications in solving the problem.
 3. Parameters used are well explained and justified.
 4. Assumptions with rationale are clearly stated.
 5. Model testing and sensitivity-error analysis (where necessary) together with model comparison (if applicable).
 6. Strength and weaknesses of the method/approach used.
 7. Proper source of references.

- Teams may use reliable secondary data from books, articles, magazines, newspapers, websites or any other form of information. However credit **MUST** be given to the sources used.
- Solutions must be in the form of written text with figures, charts, tables, pictures or any other printed objects where necessary.
- Teams must not write their names or their mentors' anywhere in the summary and written solutions. Any indication that could identify the team members, mentors or their institute must be avoided.
- Teams should not get or receive help in any form, either directly or indirectly from anybody outside of the team.

F. EVALUATION PROCESS

- Solutions will be judged by a panel of jurors.
- There are two stages of evaluation:
 - First evaluation:
 - Teams' performances will be classified into 2 categories: Successful and Unsuccessful. There will be no marks given.
 - Only 5 groups will be identified as successful.
 - Second evaluation (Grand Final):
 - The 5 successful groups will be further evaluated in the grand final.
 - Will be held in Universiti Teknologi Malaysia (UTM), Johor Bahru on **19 April 2020 (Sunday)**.
- Jurors' decisions are final.

G. GRAND FINAL

- Prizes and certificates will be given to the top THREE (3) winners and TWO (2) consolation prizes.
- The successful teams will have to arrange their own transport and accommodation which will be reimbursed RM400 (max) by the organizer.
- The reimbursement will be conferred once MIMMC2020 secretariat received the claim form together with valid receipts from the mentor.
- This reimbursement is NOT APPLICABLE to UTM teams.

H. DISCLAIMER

- The organizer reserves the right to disqualify any teams that it finds to have violated the rules and spirit of the challenge.
- All problems and solutions belong to the organizer. Reuse or reproductions of the materials are not allowed without written permission from the organizer.

Good luck!

MIMMC2020 Secretariat

UTM Centre for Industrial and Applied Mathematics (UTM-CIAM)

Universiti Teknologi Malaysia

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