

MALAYSIA INDUSTRIAL MATHEMATICAL MODELLING CHALLENGE 2019 (MIMMC2019) 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 from the same institution.
- Each team must elect a mentor from among the 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 before **20th January 2019 (Sunday)** by email to utmciam@utm.my.
- Any correspondence must be using mentor's registered email address with Team ID Number as the subject of the email.
- Teams may not use any person (other than team members) to discuss or obtain ideas for solving their problem **nor may they seek help in obtaining an answer from the teams' advisor or anyone else**. Any team that discusses the problem with anyone in a position to supply them with information reflecting experience or professional expertise will be disqualified. The relevant issue is one of intent: each team of

students is expected to develop all of its substantive analysis without the help of others.

B. REGISTRATION

- Teams must be registered by **20th January 2019 (Sunday)**.
- 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 MIMMC 2019 secretariat from then on including the submission of the solution. Please use Team ID Number in the email's subject.
- A fee of RM150 per team is required prior registration.
- Steps to register:
 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/mimmc2019/>, click **Register Now** button (at the bottom of the page).
 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 done.
 5. Once the payment is confirmed, the team will receive a confirmation of participation together with MIMMC 2019 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 **9.00 a.m (Malaysia Time) on 27 January 2019 (Sunday)**.
- Teams are to choose only **ONE** question to answer.
- Challenge's duration is 25 days, ending precisely at **9.00 a.m (Malaysia Time) Tuesday 20 February 2019 (Wednesday)**.
- Each team **must** email the softcopy of their solutions to utmciam@utm.my before the challenge ends at **9.00 a.m (Malaysia Time) on 20 February 2019 (Wednesday) and the team photo in JPEG**.
- Please put "MIMMC2019 SOLUTION: <Team ID Number>" as subject of your e-mail when submitting your solutions to us. For example if your Team ID Number is ABC1234 then the subject of your e-mail should be: **MIMMC2019 SOLUTION: ABC1234**
- Please rename all your submission files with MIMMC2019_<Team ID Number>solution. For example: **MIMMC2019_ABC1234_solution**.
- The confirmation of acceptance of solution will be sent to mentor's e-mail address specified in registration.

D. QUESTIONS

- Three (3) questions will be uploaded/posted in the MIMMC2019's website at precisely **9.00 a.m (Malaysia Time) on 27 January 2019 (Sunday)**.
- Each team must choose and answer only **ONE** (1) question.
- The questions will be based on real-world problems that must be solved using mathematical approaches and formulations.
- Each question may use more than one model/approach depending on the requirements of the question.

E. TEAMS WRITTEN SOLUTIONS

- The template of the solutions can be downloaded from MIMMC2019's website.
- Solutions to chosen question can either be in Bahasa Malaysia or English.
- Solutions must be typed and must not exceed 25 pages.
- Solutions must be in PDF file.
- Please use Times Roman with font size 12 and 1.5 spacing for your document.
- **Each page of the solution must contain the Team ID Number on the top left and the page number at the top right of the page; we suggest using a page header on each page for example:**
MIMMC2019 ABC1234 page 1 of 13.
- List of references must be at the end of the solution.
- The judging of the competition will be based on the submitted solution.
- The solution will be judged 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. RESULTS

- Solutions will be judged by a panel of judges.
- 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:
 - Will be held in Universiti Teknologi Malaysia (UTM), Johor Bahru on **18th March 2019 (Monday)**.
 - The successful teams will be reimbursed RM400 (max) for travelling and accommodation purposes.
 - The teams will have to arrange their own transport and accommodation.
 - The reimbursement will be conferred once MIMMC2019 secretariat get the claim from the mentor of the team.

- This reimbursement amount is **NOT APPLICABLE** to UTM teams.
- Judges decisions are final.

G. PRIZES AND AWARDS

- Prizes for the top three winners will be RM1000, RM600 and RM400 respectively and TWO (2) consolation prizes. Payments will be made to the mentors by cheque/online transfer.
- All participants will be given a certificate of participation by post.

H. DISCLAIMER

- The organizer reserves the right to disqualify any teams that it finds to have violated the rules and spirit of the challenge.
- Teams should regularly visit the website for any announcement on modifications or changes to the dates or regulations.
- Please do not hesitate to contact the secretariat at utmciam@utm.my for any enquiries.

Good luck!

MIMMC2019 Secretariat
UTM Centre for Industrial and Applied Mathematics
Universiti Teknologi Malaysia