GUIDEBOOK

CONSTRAIN 2018

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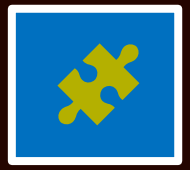

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WHAT IS CONSTRAIN?

Competition of Industrial Engineering (Constrain) 2018 is a competition for Indonesian undergraduate students majoring in Industrial Engineering, held for the second time by the Industrial Engineering Student Association of Engineering Faculty - Hasanuddin University (HMTI FT - UH).

WHERE ?

CONSTRAIN will be held at Engineering Faculty Of hasanuddin University, Gowa,
South Sulawesi.

TIMELINE OF CONSTRAIN 2018

25TH SEPTEMBER 2018	OPEN REGISTRATION
5TH OCTOBER 2018	CLOSE REGISTRATION
6TH - 8TH OCTOBER 2018	PRE-ELIMINARY TEST
10TH OCTOBER 2018	TOP 15 ANNOUNCEMENT
29TH OCTOBER - 1ST NOVEMBER 2018	MAIN EVENT

STAGES OF

CONSTRAIN 2018

PRE-ELIMINARY TEST 6TH - 8TH OCTOBER 2018

Pre-eliminary Stage is the first stage to select the finalists of CONSTRAIN 2018. At this stage, the team will take an online test consisting of questions about industrial engineering knowledege. This test consists of 30 quest ions in MCQ form, with time limit of 45 minutes

STAGE 1 : QUIZEZ 29TH OCTOBER 2018

15 teams who have passed from the Pre-Eliminary Stage, will take part in the Stage 1 : QUIZEZ, at the Faculty of Engineering, Hasanuddin University. At this stage, the knowledge and abilities of each team regarding industri al engineering will be re-tested in the form of Team Quiz. Each 1 Quiz session, consists of a maximum of 3 team s that will face each other and compete for the highest score.

STAGE 2 : POST GAMES 30TH OCTOBER 2018

At this Stage, 15 teams will compete for as many scores as possible through POST GAMES.
At this Post Games, there are posts that all teams must go to. For each post, there are different games or challenges. Good knowledge of industrial engineering, cooperation and communication will be required by the Team to go through this stage.

STAGE 3 : CASE STUDY 31ST OCTOBER 2018

After going through STAGE 1 and STAGE 2, the scores obtained by the team on each Stage will be added. 5 tea ms with the highest number of scores will pass to STAGE 3: Case Study. The team that successfully passed to th is stage will make a visit to company and conduct a "case study" on the company's problems in accordance with the CONSTRAIN 2018 theme

FINAL STAGE: PRESENTATION 1ST NOVEMBER 2018

After conducting a case study, the 5 teams will present their solutions to the jury to determine the winners of CONSTRAIN 2018..

RULES OF
CONSTRAIN 2018

1. The team consists of 3 Industrial Engineering Undergraduate Students from the same University / Institution.
2. There are no limitations on the number of teams from each university / institution for the pre-eliminary stage.
3. One student can only participate in one team.
4. After registering, changes to team's members are not allowed.

REGISTRATION PROCEDURE

PAYMENT

Registration Fee per- Team is IDR 150.000. The team must have and keep the proof / payment receipt. Payment should be transfer to :
BANK MANDIRI: .
170 00 0071692 2- Haryati Anwar

ONLINE REGISTRATION

After Payment, the Team may register online at www.constrain2018.com

CONFIRMATION

After registering, the team will receive confirmation from us to the.Team Leade r via email.

MAIN EVENT

For 15 teams that successfully pass the Pre-Eliminary stage, they are required to make a payment of IDR 2.500.000 as a fee for the next stages and acccomodation.

PRIZES

1ST WINNER

IDR 9.000.000

1ST RUNNER UP

IDR 7.000.000.

2ND RUNNER UP

IDR 5.000.000

☑ **CERTIFICATES FOR ALL TOP 15 PARTICIPANTS**

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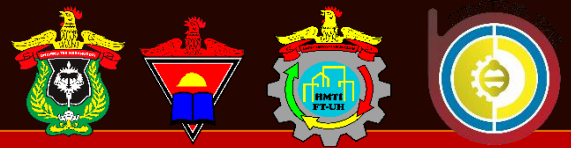

Optimization and Industrial Computing			
Operation Research	**System Simulation**	**Decision Analysis**	**Dynamics System**
▪ Network Model ▪ Linear programming ▪ Goal programming ▪ Markov chain ▪ Sensitivity Analysis	▪ Discrete event simulation	▪ Modeling decision analysis ▪ Decision technique ▪ Modeling preference ▪ Uncertainty in modelling decision technique	▪ Continuous system ▪ Causal loop diagram ▪ Flow diagram

Manufacture System			
Manufacture System	**Maintenance and Reliability Engineering**	**Sustainable Development**	**Facility Planning**
▪ Manufacture Process ▪ Process Design ▪ Material handling system ▪ Production Management System	▪ Failure Phenomenon model ▪ Maintenance Types ▪ Maintenance Scheduling ▪ Reliability System ▪ Reliability testing	▪ Sustainable development ▪ Suistanble Manufacturing Principal ▪ Life cycle product ▪ Life cycle management	▪ Material handling Analysis ▪ Warehouse Facility Design ▪ Layout design with traditional and quantitative approaches ▪ Mathematic and Optimation model for Layout Design

Business and Industrial Management				
Engineering Economic	**Project Manahement**	**Management of Organizations and Resources**	**Risk Management**	**Financial Management**
▪ Ecomomic Analysis of alternatives ▪ Accounting, depreciation, and taxes ▪ Interest formulas and equivalence ▪ Time value of money ▪ Marketing	▪ Time and Cost projecting ▪ Resources Scheduling ▪ Analysis of project performance	▪ Strategy Management ▪ Resources Management ▪ Balance scorecard ▪ Organization Structure and design	- Product and service system ▪ Objective strategy at risks ▪ Engineering Project's Risks	▪ Principal of Financial management ▪ Financial statement ▪ Financial ratio ▪ Financial forecasting, planning, and budgeting

Work System Design and Ergonomics			
Industrial Ergonomics	**Work Measurement**	**Planning and product development**	**Ergo Safety**
▪ Principal of Industrial Ergonomics ▪ Human-machine system ▪ Biomechanics ▪ Cognitive ergonomics ▪ Environmental factors	▪ Motion study and time study for lean manufacturing ▪ Stopwatch time study ▪ Work sampling ▪ Analysis of operations and the motion economy principle	▪ Planning and product development principle ▪ Product development phases	▪ Ergo Safety ▪ Causes of accident theories ▪ Hazard types ▪ Occupational, health, and safety regulation

Logistic and Supply Chain Management				
PPIC	**Logistcic Management**	**Distribution Management**	**Procurement**	**Supply Chain Management**
▪ Forecasting ▪ Aggregate Planning ▪ MPS & MRP ▪ Capacity and inventory planning ▪ Production control	▪ Customer service and order process ▪ Inventory and services level ▪ Logistic network design ▪ Transportation and distribution	▪ Distribution network de sign ▪ Location- allocation	▪ Deterministic and probabili stic demands ▪ Inventory distribution system ▪ Inventory measurement	▪ Supply Chain Strategy ▪ Network Configuration ▪ Demands Management ▪ Supply Chain Management Performance Measurement

SEE YOU IN

CONSTRAIN 2018

SALAM UNITY!

FOR FURTHER INFORMATION :

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