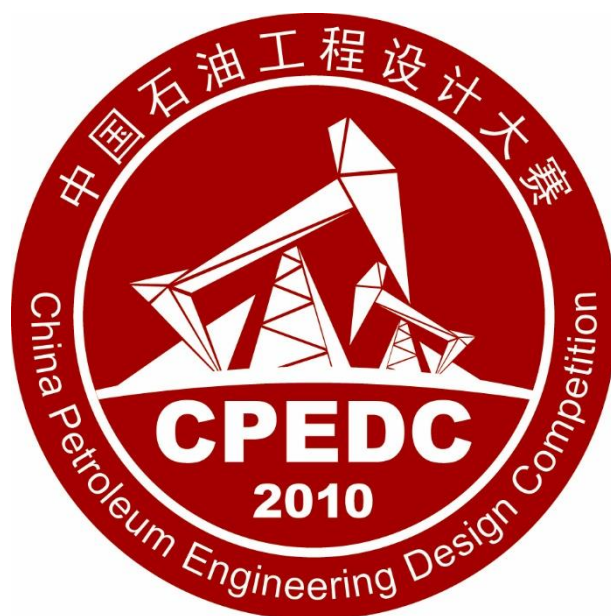


The 12th China Petroleum Engineering Design Competition (International Track)



Overall Scheme



Wechat



Weibo

1. Introduction

1.1 Name and logo

Chinese name: 中国石油工程设计大赛

English name: China Petroleum Engineering Design Competition

Abbreviation: CPEDC

Competition logo: 

1.2 Organization

Organizer: Chinese Petroleum Society

Chinese National Committee For World Petroleum Council

China Petroleum Education Society

Sponsor: China National Petroleum Corporation (CNPC)

China Petrochemical Corporation (SINOPEC)

China National Offshore Oil Corporation (CNOOC)

Schlumberger

Host: China University of Petroleum - Beijing

1.3 Background

With the rapid development of the global economy, oil has become an important strategic resource worldwide with its function and role being increasingly prominent in the international energy system. At present, the development of the conventional oil and gas resources has reached a plateau, while the development of the unconventional hydrocarbon resources is gradually becoming a hot spot. This transition not only poses new challenges to the existing development technologies, but also

transforms the oil and gas field development design from the original one that mainly meets the application purpose to the one that need comprehensive consideration over drilling efficiency, reservoir protection, recovery factor, economic benefits and other requirements, which puts forward higher requirements for the designer's professional knowledge level, overall planning ability and innovative thinking.

The competition has been held consecutively for 11 years, and its influence is gradually expanding. It has become an annual event for Chinese petroleum students. In order to further expand its international influence and to establish a platform for international academic exchange in the field of petroleum engineering, the international track is opened for the first time in 2022 on the basis of previous series of activities, aiming to strengthen the communication between global petroleum youth, improve their ability to solve complex engineering problems, and cultivate future world-class petroleum engineers contributing to the construction of the community with a shared future for mankind.

2. Content

2.1 Contestants

The competition is mainly opened to full-time postgraduates from universities and research institutes across the world. Undergraduate and junior college students are encouraged to participate. Contestants are required to form a team of 3-5 students, with at least one international student. There are no specific requirements for the education background.

2.2 Project setting

The expert committee of the competition will provide geological data of oil (gas) field blocks, and the participating students will complete the design of oil (gas) field development scheme by referring to the basic data of the scheme Design Of the 12th China Petroleum Engineering Design Competition.

Specific requirements: complete an overall oil (gas) reservoir engineering, drilling and completion engineering, oil (gas) production engineering, ground engineering, HSE, economic evaluation and other oil (gas) field development plan, composed of 3-5 students and 1-4 supervisors.

2.3 Requirements

2.3.1 Content

(1) The content must be complete and the entries should be completed in accordance with the Requirements of the 12th China Petroleum Engineering Design Contest.

(2) The design scheme has a detailed calculation process and sufficient demonstration.

(3) Plagiarism and use of similar project reports is strictly prohibited.

(4) Indication and explanation on source should be made for any citation.

2.3.2 Format

(1) The entries should be compiled in the form of engineering project report, and the calculation process should be given in the form of appendix.

(2) Typesetting should be done according to the format requirements

of the scheme stipulated by the Competition Organizing Committee, referring to the "Format Requirements of the 12th China Petroleum Engineering Design Competition".

2.3.3 Submission requirements

(1) Work submitted should follow the submission format stated by the competition organizing committee.

(2) Submission time should follow schedule made by the organizing committee, and overdue submission is invalid.

2.3.4 Work Ownership Statement

The ownership of the work belongs to the participating teams. If the work is indivisible, the team members will share the work; If the work are divisible, team members are free to use their own part of the entries. The organizing committee of the competition can organize and publish outstanding works. If the participating teams have special requirements for the copyright of the works, please indicate in detail when submitting the works.

3. Review process

3.1 Valid work identification

Responsible unit: Expert Committee of China Petroleum Engineering Design Competition

Review method: The expert committee of the competition will identify the works submitted by each sub-competition area and select valid works(Valid works refer to works that meet the requirements of 2.3 and have no similarities).

3.2 Preliminary contest

Responsible unit: Expert Committee of China Petroleum Engineering Design Competition.

Evaluation methods: Promote to the final and the global third prize after evaluation of valid works completes.

Composition of judges: experts (senior engineers) from oil companies.

notes: It depends on the number of participating teams.

3.3 Global Finals

Responsible unit: Expert Committee of China Petroleum Engineering Design Competition

Review method: The participating teams will conduct online defenses, and the expert judges will score according to the "China Petroleum Engineering Design Competition Finals Scoring Standards", and the distinguished, first, second prizes will be generated according to the scores.

Composition of judges: experts (senior engineers) from oil companies.

Finals procedure:

(1) Online presentation: Contestants use PPT to show the main content of the work, and the time should not exceed 15 minutes.

(2) Question time: After the defense of each work, the judges will comment on the work and ask questions, which will be answered by the respondent within 5 minutes.

3.3 Scoring method

Set the team academic degree coefficient and sub-item weight coefficient. The overall score of the works will be calculated according to Table 1.

Table 1 Work scoring method

Composite scores	$Score = \lambda \times \sum_{i=1}^4 C_i \rho_i$
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notes: *Score*—composite scores, λ —team degree coefficient, C_i —score for sub-item i , ρ_i —weight of item i .

The team education coefficient λ is calculated by taking the highest education in the team, where:

When the team's highest education is a doctorate, λ takes 1.0.

When the team's highest education is a master's degree, λ takes 1.02.

When the team's highest education is undergraduate, λ takes 1.05.

When the team's highest education is a junior college, λ takes 1.10.

The weight coefficients of each sub-item are shown in Table 2.:

Table 2 Weight of each sub-item

Serial number i	Project content C	Weight ρ
1	Oil and gas reservoir engineering	0.25
2	Drilling and completion engineering	0.20
3	Oil and gas production engineering	0.25
4	The ground engineering	0.20
5	HSE and economic evaluation	0.10

4. Award setting

4.1 Award setting

Distinguished Prize: One team, the award certificate and 10,000 yuan bonus.

First prize: No more than one third of the total number of teams in the

finals, award certificate and 3,000 yuan bonus.

Second prize: No more than two thirds of the final team, award certificate and bonus 2,000 yuan.

Third prize: Award certificate.

Outstanding Instructor Award: The instructor of the team that won the second prize or above.

Notes: ①The above awards are calculated on the basis of valid works.

②In case of irresistible factors, the organizing committee will not be responsible for the awards.

5. Schedule

5.1 Release of Project Dataset

Time: March 11, 2022

Note: The organizing committee will release the project dataset on the official social media accounts, official website of the competition, and the English website homepage of China University of Petroleum, Beijing.

5.2 Competition registration

Time: March 11-25, 2022

Note: Each team registers via email. Please fill in the registration form and send it to npedc_rir_2022@163.com. The email should be named as “CPEDC+group name+university”.

notes: School name cannot appear in group name.

5.3 Qualification check

Time: March 26-28, 2022

Contents: The organizing committee will contact the participating

universities to check the registration information. After the qualification check, the organizing committee will announce the successful registration list.

5.4 Submission of works

Time: April 22-26, 2022

Contents: Each team will send the completed works (electronic version) to npedc_rir_2022@163.com.

5.5 Validity check

Time: April 27-30, 2022

Contents: The organizing committee will check the validity of the works submitted by each team according to the "Project Requirements of China Petroleum Engineering Design Competition". The results will be released on the official website of the competition. For any opposition, please contact the Secretariat of the Competition before April 28, 2022.

5.6 Preliminary contest

Time: May 6-15, 2022

Contents: Committee evaluates valid submission and selects the global third prizes and works promoted to the final.

5.7 Announcement of works in global finals

Time: May 16-18, 2022

Contents: According to the results of the validity of the works, the organizing committee of the competition will announce the list of works for the global finals on the China University of Petroleum (Beijing) English website home page and the official website of the competition.

5.8 Collection of team information

Time: May 19-22, 2022

Contents: The teams qualified for the finals must submit the team presentation materials, introductions to the entries, etc. to the designated email address according to the instructions for the finals : npedc_rir_2022@163.com.

5.9 Global finals

Time: May 21, 2022

Contents: The global finals will be held online, including two parts: presentation and jury question and answer, which will be arranged by the organizing committee of the competition.

5.10 Awards conference

Time: May 29, 2022 afternoon

Contents: The awards ceremony will be held in China University of Petroleum (Beijing), including awarding to the winning teams of the competition, speeches by leaders of the organizers, support units and organizers, and presentation of the winning teams' works.

5.11 Team style display

Time: June 6-15, 2022

Contents: Collect experience, insights and outlook blessings from all winning teams, and launch a series of columns for style display, and select the "Best Style Award" team.

6. Contact information

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Notes: The organizing committee reserves its right of final interpretation.

The Organizing Committee
China Petroleum Engineering Design Competition
March 11, 2022