

ChemE Jeopardy Rules

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ChemE Jeopardy Subcommittee Members

Chair: David Murhammer (University of Iowa)

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Please contact David Murhammer at david-murhammer@uiowa.edu regarding any questions.

General Rules and Considerations

- A maximum of three teams can play in each game.
- There is a maximum of four players per team.
- Points are deducted for incorrect responses.
- Responses should be given in the form of a question, otherwise the response will be considered incorrect, and the clue's value will be deducted from the team's score.
- Players are not allowed to buzz in until the host finishes reading the clue. Buzzing in early should be considered as an incorrect response that leads to the clue value being deducted from the team's score.
- Only the player who buzzed in can respond to the clue. A response by any other team member or talking among the team members after they have buzzed in (talking among team members is allowed prior to buzzing in) should be considered an incorrect response and the clue's value should be deducted from the team's score.
- Omega Chi Epsilon (OXE) will purchase 12 player buzzer systems (see <https://buzzersystems.com/product/traditional-buzzer-system/> for details of these systems) for each region in the United States. Each request (David Murhammer should be contacted at the email address given above to initiate the process) should contain the following information:
 1. Number of systems requested. Each region has different participant numbers and will require different numbers of systems. OXE will purchase player buzzer systems from buzzersystems.com as recommended by the ChemE Jeopardy Subcommittee.
 2. Mailing address of AIChE Student Chapter Faculty Advisor of host school for system shipment. OXE will make the initial purchase and have the supplier ship to the faculty advisor. The host school faculty advisor and AIChE members will be responsible for ensuring the systems remain in working order and for shipping the systems to the next regional host school. The systems come in convenient carrying cases that protect the systems and facilitate shipping.
 3. Faculty advisor commitment. OXE requests that the AIChE faculty advisor of the host school acknowledge their responsibility for maintaining the systems and sending to the next host school.
- Players are not allowed to press the buzzer while the clues are being read (even when the players are locked out from buzzing in). Note that pressing the buzzer (either continuously or intermittently) while the clues are being read will not be allowed at the national competition and should not be allowed at the regional conferences.
- Preliminary games (i.e., those used to determine the teams that will compete in the semi-final games) can consist of only Jeopardy and Final Jeopardy rounds, although it is recommended

to include double jeopardy if time permits. Note that this rule only applies to regional competitions in which there are more than 9 teams competing and does not apply to the national competition.

- The semi-final and championship games at the regional and national competitions must consist of Jeopardy, Double Jeopardy, and Final Jeopardy rounds.
- Only the team that selects the Daily Double may respond to the clue. In Jeopardy the Daily Double wager may be as high as the team's total points at the time that the Daily Double is chosen or 500 points, whichever is greater. Similarly, the maximum Daily Double wager in Double Jeopardy is either the team's total points or 1000 points, whichever is greater.
- Teams with negative scores will not be allowed to participate in Final Jeopardy.

Game Board

- Factile software (<https://www.playfactile.com>) should be used to build and run the game. A "Business Pro" account is needed to provide the necessary features for regional and national competitions. There is a monthly fee (\$9.50 USD) associated with a Business Pro account. Details about constructing the game boards and running a game with Factile are provided below.
- Jeopardy and Double Jeopardy should each consist of six categories with five clues each. Final Jeopardy consists of one clue.
- The point totals vary from 100 to 500 points (multiples of 100) and from 200 to 1000 (multiples of 200) for each category in Jeopardy and Double Jeopardy, respectively.
- Jeopardy and Double Jeopardy contain 1 and 2 Daily Doubles, respectively.
- At least 50% of the categories in Jeopardy and Double Jeopardy should be chemical engineering related, e.g., related to material & energy balances, fluid flow, heat transfer, mass transfer, unit operations, separations, thermodynamics, chemical reaction engineering, chemical process safety, process control, chemical process design, biochemical engineering, etc.
- It is recommended that Jeopardy and Double Jeopardy each contain one (but not more) category outside of science and engineering, e.g., sports, geography, history, politics, pop culture, etc. (something of general interest to the clue writers).
- The remaining Jeopardy and Double Jeopardy categories should include technical topics such as biology, chemistry, physics, mathematics, engineering disciplines other than chemical, etc.
- The difficulty of the clues should increase as the value of the clue increases.
- The Final Jeopardy clue should be chemical engineering related.

Constructing Game Boards in Factile

- Separate game boards must be constructed for Single & Double Jeopardy.
 - Single Jeopardy board needs 1 Daily Double and Double Jeopardy board needs 2 Daily Doubles. These Daily Doubles are selected in constructing the game board, i.e., prior to playing the game. Daily Double construction involves entering "DAILY DOUBLE!!" as the clue for the cell and entering the actual clue as the Factile Answer. Thus, the correct response will not be on the board and must be announced by the emcee at the appropriate time as needed.
 - The Double Jeopardy board should be designated as such by use of the Double Factile Game icon (denoted as "D" in Factile).

- The Double Jeopardy board should also include a Final Jeopardy (“Final Factile”) clue and correct response. Note that Factile will not display a Final Jeopardy Category and therefore the category must be stated by the emcee prior to players making their final wager.
- Use Edit menu to construct & edit game boards.
 - Each of the 30 cells are edited individually. Clues and Responses can consist either of text only or of text and graphic image.
 - Graphics can be uploaded using the Upload Image Tool.
 - Equations – It is highly recommended that Equations be constructed outside of Factile and uploaded as a graphic image. A technique that has been used is to:
 - Construct equation in Word Equation Editor. A large font size (e.g., 28) should be used and a white font color should be used.
 - Copy & paste the equation as a picture in PowerPoint.
 - In PowerPoint save the equation as a png graphic.
 - Upload the equation to the appropriate Factile cell using the Upload Image Tool.

Playing Jeopardy and Double Jeopardy – General Considerations

- While it is the responsibility of the players to know the game rules, it is recommended that the Emcee briefly review the key rules prior to beginning the game.
- The Emcee should begin each round (Jeopardy or Double Jeopardy) by revealing the board and then reading the categories and providing special instructions (if needed) for given categories.
- A team is randomly chosen to go first in Jeopardy and begins the game by selecting a category and point value (e.g., "Sports for 100"). The Emcee then reads the clue, after which any player on any team can buzz in. The most recent team to give a correct response selects the next category and point value.
- The Emcee recognizes the first team to buzz in and calls on that team for a response. Only the person who buzzed in can respond to the clue. A response by any other team member or talking among the team members after they have buzzed in (talking among team members is allowed prior to buzzing in) should be considered an incorrect response and the clue’s value will be deducted from the team’s score.
- A correct response earns the point value of the clue and gives the answering team the right to select the next clue. If a team gives an incorrect response or fails to answer in time, then that amount will be deducted from the team’s score and another team may buzz in (within five seconds after the Emcee indicates that the previous team’s response was incorrect) and respond. If no correct response is given, then the Emcee reads the correct response.
- Teams are allowed to discuss responses prior to buzzing in, but all conversation must stop when someone buzzes in. The player that hits the buzzer must be the same player that gives the response. This player must begin their response within five seconds following recognition by the Emcee.
- Play continues in each Jeopardy and Double Jeopardy round until all of the clues have been read.
- Prior to revealing and reading the Daily Double clue, the Emcee should announce the team scores.
- The team with the lowest score entering the Double Jeopardy round chooses first.
- Key times (time begins when the Emcee has completed reading the clue): (i) five seconds to buzz in to answer, (ii) five seconds to provide a response after being recognized by the Emcee,

(iii) five seconds to buzz in following an incorrect response by another team, and (iv) ten seconds to provide response to Daily Double.

Playing Final Jeopardy – General Considerations

- At the end of Jeopardy (preliminary games) or Double Jeopardy (semi-final and championship games), the Emcee should announce the team scores and reveal the Final Jeopardy category.
- Teams with negative scores will not be allowed to participate in Final Jeopardy.
- Upon revealing the Final Jeopardy category, teams will have 30 seconds to write down their wager (which can be any value between 0 and the current team score). The resulting paper should be placed face down in front of the team.
- After all teams have placed their wager, the Emcee should reveal and read the Final Jeopardy clue.
- The teams have 30 seconds to write down their response, which must be in the form of a question. Each team must place the resulting paper face down in front of the team.
- The Emcee will then, beginning with the team with the lowest score, reveal the teams' responses and wagers, and their final score.
- After revealing all team responses & wagers, the Emcee should summarize the scores and announce the winner.

Running a game in Factile

- Ensure that the Double Jeopardy board has the Double Factile Game icon activated.
- Select Play for the Single Jeopardy board.
- Select 3 teams (or 2 teams if appropriate).
- Select NO BUZZER mode.
- Select the 3 (or 2) team emblems. Note that you should upload an appropriate emblem for each competing team into Factile prior to the competition.
- Single Jeopardy Game will then commence.
- When the Daily Double is selected:
 - Take the team's wager.
 - Host then clicks on Skip/See Answer and reads clue.
 - Team responds within 10 seconds and is informed if they are correct. (Note that the correct response will not be on the board as mentioned previously).
 - Host clicks on Continue and then adjusts the team's score appropriately.
- At the end of Single Jeopardy select the option to continue to Double Jeopardy.
- Double Jeopardy will commence, the team with the lowest score selects first to begin the game as usual.
- The board contains 2 Daily Doubles as described previously.
- At the end of Double Jeopardy, the Final Jeopardy screen will appear, teams with scores >0 are eligible to continue.
 - Host should state Final Jeopardy category (e.g., Dimensionless Numbers)
 - Teams then have 30 seconds to write down their wagers and turn them into the host.
 - While teams are writing down their wagers host can enter 0 (zero) for the official Factile wager of all teams.
 - After the wagers are in the host reveals the clue by clicking Play Now.
 - 30 second countdown begins when the host completes reading the clue.
 - Teams write down their responses in the form of a question and turn them into the host.

- Host reads the response of the team with the lowest score informs them if their response is correct. If the response is correct, then the host selects Skip/See Answer. Host then reveals the team's wager and adjusts the team's score appropriately. Note that scores in Factile can only be varied by multiples of 100.
- Repeat the above procedure with the middle scoring team and the highest scoring team, selecting Skip/See Answer for a correct response if it has not yet been selected. If all 3 teams have an incorrect response, then select Skip/See Answer before revealing the wager of the last team.
- At this point all teams should have their final scores displayed and it will be apparent who has won. Click on Continue anyway for Factile to officially announce the winner. Select Show Score on the final screen and record the scores for all 3 teams.

Tie Breaker

- If two or more teams are tied for first place at the conclusion of Final Jeopardy, then a tiebreaker round will be played.
- The tied teams will be presented with a category and the clue will then be revealed.
- The first team to buzz in and give the correct response wins the game.
- If a team buzzes in too early (i.e., prior to the Emcee reading the entire clue), then their response will be considered to be incorrect.
- If a team provides an incorrect response, then another team may buzz in and respond.
- If no team provides a correct response, then another category will be presented. Thus, multiple clues need to be available since the tiebreaker could require multiple rounds.
- The tiebreaking clues/responses should be chemical engineering related.

ChemE Jeopardy at Regional Conferences

- The host school is responsible for developing the clues & responses following the criteria given above. Suggestions for generating clues & responses include:
 - Utilizing chemical engineering (and other) textbooks.
 - Ask professors in your department to write clues & responses for courses that they have taught recently.
 - Review clues & responses from previous competitions for ideas. These can be obtained upon request from David Murhammer (david-murhammer@uiowa.edu).
- It is critical that the clues are written concisely in a manner that is easy to understand. Furthermore, the goal should be to have clues that have a unique response. Consider the following examples:
 - Bad Example: Clue – “This is the most common way that water is treated.” and Response – “What is chlorination?” Note that this is a vague question in that there are many possible answers since there are many water treatment methods depending on the end use, etc. This clue can be modified as shown below.
 - Good Example: Clue – “This water treatment method is commonly used to prevent the spread of waterborne diseases in municipal water systems.” And Response – “What is chlorination?”
- The completed game board(s) must be inspected and approved by the AIChE Student Chapter Advisor and/or other chemical engineering faculty in order to verify the accuracy of the clues/responses and to identify potential alternative correct responses. This inspection and approval process must be documented by signing the “ChemE Jeopardy at Regional Conference Approval Form” and emailing to Emily Miksiewicz (emilm@aiche.org) and David

Murhammer (david-murhammer@uiowa.edu) at least 2 weeks prior to the regional conference. This form is provided at the end of this document. Furthermore, the game boards should be sent to David Murhammer at least 2 weeks prior to the regional conference for review. Suggestions for improving the clues/responses will be provided to the hosts.

- The AIChE Student Chapter Advisor and/or other chemical engineering faculty must also confirm that no advantage is given to the host school ChemE Jeopardy team(s) (if applicable). For example, having clues/questions pertaining to the host school, state, etc., would be considered inappropriate.
- The Emcees and assisting students should be trained for their roles and be aware of the correct responses and potential alternative correct responses. Note that multiple Emcees and assisting students will be needed for preliminary round games that are held simultaneously. In addition, a faculty member, graduate student, or an industrial representative must be in the room for all games to enforce the rules and ensure that correct alternative responses are identified. This requires access to and review of the rules and the game board(s) prior to the competition.
- Emcee responsibilities:
 - Introducing the game.
 - Reading the categories at the start of each round.
 - Reading the clues.
 - Judging the answers; the faculty member, graduate student, or industrial representative in the room (see above) can aid and/or overrule the emcee if deemed appropriate. Note that it is acceptable to ask for more detail or a more specific response if the Emcee believes that the initial response is partially correct.
 - Reading the response if no team correctly responds.
 - Keeping score using the scoring system provided with the PowerPoint file.
- Students should be recruited to assist the Emcee to make certain that the following are accomplished:
 - All of the items listed under the Emcee responsibilities (see above).
 - Have a backup scorer to confirm the accuracy of the team scores.
 - Accurate timekeeping in regard to responding to clues, etc. (see above).
- Other Considerations
 - If more than 9 teams are participating in the competition, then the number of teams needs to be reduced to 9 for the semi-final games. This can be accomplished by having multiple preliminary games and/or giving byes to randomly selected teams. For example, if 12 teams are participating, one approach involves giving byes to 3 teams that would thereby qualify for the semi-final round. The other 9 teams would play in 3 games run simultaneously and the top 2 teams from each game would qualify for the semi-final games.
 - Please contact David Murhammer (david-murhammer@uiowa.edu) if you want suggestions about setting up the competition bracket. The competition bracket (including game times and locations) should be completed prior to the regional conference and shared with all participating teams.
 - A game board will need to be developed for every preliminary game that occurs at a different time (i.e., the same game board can be used for preliminary games that occur simultaneously in different rooms). It is recommended that these game boards consist of Jeopardy, Double Jeopardy, and Final Jeopardy. However, game boards consisting of only Jeopardy and Final Jeopardy can be used to save time if necessary.
 - There should be a maximum of three teams competing in a game.

- If 9 or fewer teams are participating in the competition, then a preliminary round is not needed.
- The purpose of the semi-final games is to reduce the number of teams to 3 for the regional championship game.
- The game board for the semi-final and regional championship games should consist of Jeopardy, Double Jeopardy, and Final Jeopardy.
- Please contact David Murhammer (david-murhammer@uiowa.edu) if you have any questions.
- Team Members: Team members must all be undergraduate students at the time of the competition, i.e., no graduate students are allowed to be team members.

ChemE Jeopardy at the Annual Student Conference

- The winners of the nine Regional Conference competitions will automatically qualify for the North American competition held at the Annual Student Conference. In addition, up to six additional at-large teams will be selected by the ChemE Jeopardy subcommittee to compete in the national competition and will be selected from regions with the highest number of participating teams. No school will be allowed more than one team in the national competition and no region will be allowed more than two teams.
- If the qualifying team(s) from any of the nine Regional Conference competitions are not able to compete in the North American competition, then the next place team(s) from that Region will be invited to compete.
- There will be three rounds of competition as follows:
 - North American preliminary round with up to 4 simultaneous competitions with 3 teams each will be held as needed to reduce the number of teams to 9 for the semi-final round. Note that up to 3 teams, i.e., winners of the regions that participated in the championship round at the previous North American competition, will receive preliminary round byes as needed.
 - North American semi-final round with 3 simultaneous competitions with 3 teams each.
 - North American championship round consisting of the 3 winning teams from the semi-final round.
- There will also be one or more rounds of an International Competition.
- The clues & responses will be developed by ChemE Jeopardy subcommittee members.
- ChemE Jeopardy subcommittee members will serve as the Emcees for all rounds of the competition.
- Students from the host school(s) will assist the Emcee to ensure completion of the tasks listed in the ChemE Jeopardy at Regional Conferences section.
- Team members: All members of the team that participated in the regional competition are eligible to compete in the national competition, including students that have received their BS degree since the regional competition. Furthermore, any or all the members of the regional competition team can be replaced with other students, but these replacement team members must be undergraduate students at the time of the national competition.

Awards

Omega Chi Epsilon will give monetary awards of \$200 and \$100 to the 1st and 2nd place teams at each regional competition. Furthermore, they will give \$400, \$200, and \$100 to 1st, 2nd, and 3rd place teams at the North American and International competitions.

ChemE Jeopardy at Regional Conference Approval Form

Directions: The following form must be completed and emailed to Emily Miksiewicz (emilm@aiiche.org) and David Murhammer (david-murhammer@uiowa.edu) at least 2 weeks prior to the regional conference. Either the AIChE Student Chapter Advisor (preferred) or another faculty member must sign in the indicated locations. Note that an electronic signature (i.e., typed) is acceptable. In addition to the completed form, you should email David Murhammer your game boards for review.

Conference Region: _____

Host School: _____

School AIChE Advisor: _____

1. I hereby confirm that I have reviewed all of the ChemE Jeopardy game boards that will be used at the regional competition. Furthermore, I have found that clues and responses to be reasonable and have discussed correct alternative responses with the students that will be serving as Emcees.

(Signature)

(Title, e.g., AIChE Student Chapter Advisor, etc.)

2. I hereby confirm that there will be either a faculty member, graduate student or an industrial representative (i.e., a person with a chemical engineering degree) in the room for all games to enforce the rules and ensure that correct alternative responses are identified. Furthermore, they will be given copies of the rules and game boards to review prior to the competition.

(Signature)

(Title, e.g., AIChE Student Chapter Advisor, etc.)

3. Our school will be competing in the regional ChemE Jeopardy Competition: Yes No

If yes, then I hereby confirm that the game boards do not contain categories or clues that gives our team(s) an unfair advantage, e.g., trivia pertaining to our school, state, etc.

(Signature)

(Title, e.g., AIChE Student Chapter Advisor, etc.)

ChemE Jeopardy at Regional Conference Summary Form

Directions: The following form must be completed and emailed to Emily Miksiewicz (emilm@aiche.org) and David Murhammer (david-murhammer@uiowa.edu) within a week following your regional conference. **You should also email all of your game boards to David Murhammer.**

Conference Region: _____

Host School: _____

School AIChE Advisor: _____

Person Completing This Form: _____

Number of participating ChemE Jeopardy Teams: _____

Top 3 teams in final round of competition:

Place	Team Name	University	Team Contact Person and Email	Final Score
1				
2				
3				

Details of competition (include how many rounds of competition were held, how each round was conducted, any problems encountered, and any other pertinent information):