

Introduction

RoboCup Junior (International) DANCE – Bremen, 2006.

Introduction

Welcome to RoboCup Junior Dance!

Those who have competed before will know what a wonderful and exciting time lies ahead of you. If you are a first-time competitor; congratulations!

We have a first-rate event waiting for you this year in Bremen, Germany, and look forward to having you spend a week with us and all the students from around the world. One of the main features of our event is to have students mix with each other and enjoy each other's company, even though you may only speak your native language. This is part of the fun of RCJI! You will be surprised how well you will be able to communicate with each other, even if you don't talk the same language.

There are many changes to our event and our rules from 2005. It is MOST IMPORTANT that each student reads the rules and are familiar with them. You will also find this year that there are Appendixes on this Web site that contain extra information, such as copies of the judges' score sheets, so you will know exactly what the judges are looking for in your performance and interview. Did you know you should bring a poster or Electronic Presentation to be put on show during the event? We'd love to know more about you and your preparation.

Please remember: RCJI is a competition, but it should be a 'happy' one! If you find you are getting too serious and not enjoying yourself, you have missed the point a little. We all want to have a great time together and celebrate each others' achievements – let's have this as our main aim in Bremen.

If you have any questions about the rules or your preparation, you are welcome to e-mail questions to your National Representative or to me:

Ian Maud ('Maudy') at: icmaud@stpaulswgl.vic.edu.au

I am the Chairperson of your Technical Committee for Dance. The rules and conditions for this event have been discussed and decided upon by a group of people from several different countries so I think we can find an answer for you from one of us!

You will also see in the information we have provided that we will be running a social event for all RCJI teams – come along and meet other people like yourselves from another part of the world!

Bremen will be a memorable and most wonderful few days together: welcome to our robotic 'family,' and let the games begin!

-Ian Maud, January 2006.

Last updated by [dancechair](#) on 01/18/06

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RCJI Dance rules - Bremen, 2006

RoboCup Junior (International) DANCE rules - 2006

Note:

Changes from 2005 rules are underlined>.

The most important rule for RoboCup Junior Dance is 6.5.3!

These rules to be read in conjunction with Appendix 1:

'RoboCup Junior (International) DANCE – Bremen, 2006.'

1. Stage.

1.1. Size.

1.1.1.

The dance stage will be a flat area of approximately 10m x 5m.

Robots will be required to perform within a marked rectangular area of 6m width X 4m depth, the 6m side to face the judging panel.

Robots that move outside these boundaries are not disqualified, but will receive a score penalty. Human performers may be outside this marked area.

Any performance involving a height greater than 4m vertically from the stage floor must be discussed with the judges and permission sought

The boundary of this area will be marked with a 50mm white and black tape line.

The floor provided shall be made of unpainted MDF (compressed wood fibre). Teams are encouraged to practice on the same flooring type to reduce set-up time at the International competition. While floor joints will be taped to make them as smooth as possible, Robots must be prepared for irregularities of up to 3 mm in the floor.

1.1.2.

The dance stage will be made available for teams to practice on. In fairness to all teams who may wish to practice, a booking sheet will be used to reserve the stage for short periods of time.

1.2. Lighting.

1.2.1.

The organisers may make variable lighting including spotlights available, but teams should not expect the performance area to always be able to be darkened, with direct, intense spotlights available.

Hint: It is recommended that teams design their robots to cope with variations in lighting conditions, as lighting naturally varies from venue to venue. If necessary, teams should come prepared to calibrate their robots based on the lighting conditions at the venue.

1.3. Scenery.

1.3.1.

Teams are encouraged to provide their own scenery.

2. Robots.

2.1. Size.

2.1.1.

Robots may be of any size.

2.2. Team.

2.2.1.

There may be any number of robots on a team.

2.2.2.

Each team may perform one and only one routine, though the performance of that same routine will be repeated if they proceed to the finals for their division. See also 4.4.2

2.3. Control.

2.3.1.

Robots must be controlled autonomously. No member of the team may make physical contact with the robot while it performs, unless this forms part of the performance and has been discussed and approved by the judges PRIOR to the performance. Robots must also be 'wire-free' in that they must not be connected to a computer or other management device while performing.

2.3.2.

Robots may be started by humans, either manually or with remote control. (See also 6.1.3)

2.4. Costumes.

2.4.1.

Costumes for robots and/or human performers are encouraged, and will be awarded points.

3. Routine.

3.1. Duration.

3.1.1.

Each team will have a total of 5 minutes for their actuation. NOTE that this time includes the time for set-up, a possible and encouraged introduction and the performance.

3.1.2.

The duration of a performance routine is no more than two (2) minutes and no less than one (1) minute.

3.1.3.

If a team exceeds the time limits explained in 3.1.1 and 3.1.2 in any way by reasons that are their only fault, it will be penalized in assessment.

3.2. Music.

3.2.1.

Teams must provide their own audio source in a Compact Disc (CD-R, CD-RW) in one of the following formats:

Audio track;

MP3 file;

These will be the only accepted audio sources with one (and only one!) file or audio track for the entire routine.

3.2.2.

Teams are strongly encouraged to bring a good quality audio source, since their evaluation depends also on the music quality.

3.2.3.

The music should commence at the beginning of the audio source, after a silent leader of a few seconds.

3.2.4.

The audio source should be clearly labelled with the team's name.

3.3. Humans.

3.3.1.

Human team members may perform along with their robots, and will be considered a 'prop.' There is no penalty for humans not performing with their robots.

3.3.2.

However, human team members must not touch the robots (except to start them). See 2.3.1

3.4. Start of Routine.

3.4.1.

An official will start the music for the routine.

3.4.2.

One human team member will start each robot, either by hand or remote control.

Hint: Teams are very strongly encouraged to program their robot to begin the routine a few seconds after the music starts. This is because it is extremely difficult to judge precisely when the music will sound after the audio source is started, and it is hard to time the robot's choreography without knowing exactly when the music will begin. Also, depending on the configuration of the dance stage and the sound system at the venue, it is possible that the human starting the robot will not be able to see the official starting the audio source; and vice versa. Teams should come prepared for these conditions.

3.5. Re-starts and repeats.

3.5.1.

Teams are allowed to restart their routine if necessary, at the discretion of the officials. Any re-start, unless due to a problem which is not the fault of the team, will result in a score penalty. A maximum of two re-starts will be allowed.

3.5.2.

Teams are allowed to repeat their routine, at the discretion of the officials.

3.6. Security.

3.6.1.

In order to avoid hazardous situations such as routines including explosions, smoke or flame, each team whose routine includes any situation that could be deemed hazardous must submit a report to the chief judge before the competition, outlining the content of their dance routine. At his/her discretion, the Chief Judge could request a demonstration of the activity. Teams not conforming to this request may not be allowed to present their routine, at the discretion of the Chief Judge.

4. Judging.

(Refer also to Appendix 2)

4.1.

All teams will be assessed through an interview, and performance of a dance routine. Each team's overall score will be decided by the total of their performance and their interview.

4.2 Officials.

Refer to Appendix 1.

4.3. Categories.

Refer to Appendix 1.

4.4. Awards

Refer to Appendix 1.

4.5. Collegiality.

Refer to Appendix 1.

5. Creativity.

5.1.

The Dance challenge is intended to be very open-ended!!

5.2.

Show off your creative side!!

6. Code of Conduct.

6.1. Fair Play.

6.1.1.

Humans in any way that cause deliberate interference with robots or damage to the stage will be disqualified, if part of a team. If not part of a team they will be asked to leave the venue.

6.1.2.

The team is responsible for removing all debris left from their routine that may interfere with the performance of subsequent activities.

6.1.3.

No wireless or infrared (IR) communication devices should be brought into the tournament hall, with the exception of devices used by one member of a team to start their performance. At all other times such devices should be made inoperable.

6.1.4.

It is expected that the aim of all teams is to participate in a fair and clean competition.

6.1.5.

Remember: "Help those in need, as tomorrow it could be your team needing help!"

6.2. Behaviour.

6.2.1.

All movement and behaviour is to be of a subdued nature within the tournament venue.

6.2.2.

Competitors are not to enter set-up areas of other leagues or other teams, unless expressly invited to do so by team members.

6.2.3.

Participants who misbehave may be asked to leave the building and risk being disqualified from the tournament.

6.2.4.

These rules will be enforced at the discretion of the referees, officials, conference organizers and local law enforcement authorities.

6.3. Mentors.

Refer to Appendix 1.

6.4. Sharing.

6.4.1.

An understanding that has been a part of World RoboCup Competitions is that any technological and curricular developments should be shared with other participants after the competition.

6.4.2.

Any developments may be published on the RoboCup Junior Web site after the event.

6.4.3.

This furthers the mission of RoboCup Junior as an educational initiative.

6.5. Spirit.

6.5.1.

It is expected that all participants, students and mentors, will respect the RoboCup Junior mission. In addition, participants should keep in mind the values and goals of RoboCup Junior. Any presentations that include violent, military, threatening or criminal elements will be excluded. Any team using an inappropriate name or logo will also be excluded. Participants are asked to carefully consider the wording and messages communicated in their presentations: what seems acceptable to them may be offensive to friends from a different country or culture.

6.5.2.

The referees and officials will act within the spirit of the event.

6.5.3.

It is not whether you win or lose, but how much you learn that counts.

You will really lose if you don't take this opportunity to fraternize with students and mentors from all over the world. Remember this is a unique moment!

7. Documentation.

7.1.

Refer to Appendix 1.

Queries regarding these rules or their interpretation may be sent to the Chairman of the Technical Committee for Dance, Ian Maud (Australia), at: icmaud@stpaulswgl.vic.edu.au

Last updated by [dancechair](#) on 01/18/06

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Appendix 1

RoboCup Junior (International) DANCE – Bremen, 2006

Note:
The following information applies specifically to the International RCJ event to be held in June, 2006 in Bremen, Germany. Changes from 2005 rules are underlined.
These rules to be read in conjunction with the document:
'RoboCup Junior (International) DANCE Rules - 2006.'

4.2 Officials.

4.2.1.
Performances will be judged by a panel of four officials, two of whom will judge all performances. This panel may be different to that assessing the interviews.

4.2.2.
The four officials will be designated prior to the tournament.

4.2.3.
The officials shall not have any close relationship with any of the teams entered in the tournament.

4.3. Categories.

4.3.1
Performances will be judged according to the following categories:

Programming (eg: use of loops, jumps, sub-routines, type of programming language used, etc)
Construction (eg: robots should be of sound construction, components should not fall off, appropriate use of gearing, smooth and reliable operation, interesting movements, effective use of mechanics to achieve a purpose, etc)
Using Sensors effectively (eg: to trigger different parts of the program, for detection of boundary line, etc. This category also includes 'other technologies' apart from sensors.)
Choreography (eg: robots to move in time with music, and change actions as music changes tempo or rhythm. Choreography of humans and robots will be scored separately, etc)
Costume (Costume of humans and robots will be scored separately)
Entertainment Value (eg: How much does the performance entertain or delight the audience? Originality and creativity of the presentation, etc)

4.3.2
Each section will be given approximately equal weighting.

4.3.3
A standard scoresheet will be used for judging the interviews and dance performances: see Appendix 2 for scoresheets.

4.4. Awards

4.4.1.
Awards will be made to individual teams that achieve the highest total score in the respective categories for:

- Programming;
- Construction;
- Using sensors;
- Choreography;
- Costume;
- Entertainment Value;

There will be also some specials awards for the following categories:
Collegiality (the team who, by popular vote, has given the greatest support to other teams. This support can be in a number of ways, such as assistance with components, or friendship and encouragement). See 4.5.1;
Best poster or best electronic demonstration;
Best placed international team. The RCJ Committee encourages the formation of such teams that are the result of a co-operative project between two or more schools from different countries. The team must have students from each school/country present in the team and at the competition, to be eligible to win this special award;
- ASIMOV award. See 4.4.2
- Novice team: the team who places highest in the competition overall, and is competing at RCJI for the first time.

4.4.2.
All teams, regardless of whether they are in the primary or secondary division, who are excluded from competition after the first round, will be invited to perform a second time as members of the ASIMOV class in a new and separate competition. An award will be made to the winner of this division and will be decided by popular vote from the audience.

4.4.3
There will be three RCJI Dance Champion teams for the primary section, and three RCJI Dance Champion teams for the secondary section.

The winners of each of these two sections are the teams (or group) that achieves the highest total score summing performance in all categories: (Programming, Construction, Using sensors, Choreography, Costume and Entertainment Value, as determined by combining the interview and performance scores).

4.4.4.

Recipients of all awards will be presented with a trophy for their school, and a medallion for each team member. Any further awards are at the discretion of the organising committee

4.4.5

Ties are allowed

4.4.6

RoboCup Junior is an educational project. In keeping with this, it is important that team members learn from their experiences with RCJI, and have the opportunity to improve for later years if they so choose. The organisers will provide feedback on each team's performance by providing a modified score sheet to each team Captain after presentations are made at the conclusion of competition. This sheet will indicate to the team their areas of strength and also possible improvement, as rated by the event judges. It is important to note that these sheets will not contain detailed scores, and are not to be used to debate positions, decisions or competition scores with the judges.

4.5. Collegiality.

4.5.1

Each participating team will have one vote to nominate the team that displayed the greatest cooperative interaction with other teams. The score will be calculated by the following equation:

score= 10 x (number of votes received)/(number of participating teams)

4.5.2

In keeping with the spirit and collegiality aspects of RCJI, a party will be provided by the organisers for all team members, mentors and supporters. It is strongly requested that all such individuals delay their departure sufficiently to attend, even if the party is held after the finals and presentations. The organisers request all team members bring business-sized cards to share with other teams at the party: these cards could include the team's name, the team members' name(s) and contact details, so students can remain in contact with each other after the event. This is optional, but encouraged.

It is also requested, but not compulsory, for team members to wear either national dress, or some icon that identifies them with their country. This can be done in a humorous manner, such as an animal mascot from their country or other creative idea.

6.3. Mentors.

6.3.1.

Mentors (teachers, parents, chaperones and other adult team-members) are not allowed in the student work area, except to assist carrying equipment in or out of the area as teams arrive or depart, and to assist with moving equipment on or off the stage. Mentors may not set up such equipment on stage, as this should be the responsibility of the team members. A mentor found in the student work area without acceptable reason will be shown a yellow card. A second breach will result in a red card, and the team(s) for which they are mentor shall receive a scoring penalty. Should a further breach occur, the team may be disqualified.

6.3.2.

Sufficient seating will be supplied for Mentors to remain in a supervisory capacity around the student work area.

6.3.3.

Mentors are not to repair robots or be involved in programming of students' robots. See 6.3.1

7. Documentation.

7.1.

All teams must bring written and/or photographic documentation describing their preparation efforts. This documentation must be present during the interview, and may be called upon to help establish the authenticity of a team's entry.

7.2.1

Teams will be given some public space to display their materials on a poster board. Since the space available could be limited by the local organisers, teams are encouraged as an alternative to bring some kind of electronic presentation in Power Point format that will be displayed in the venue. The organisers will provide screening equipment.

7.2.2

Posters or electronic presentations should be made in an interesting and entertaining format, as they will be viewed not only by the judges, but by other teams and the visiting members of the public. Presentations will be judged, and an award made to the Primary and Secondary team with the best presentation.

The presentation should provide information about the team and how you prepared for Bremen.

Areas that could be covered include:

Team name, division (primary or secondary), team members' names (and perhaps a picture of the team members)

Your country, your location in your country, and a little about your district and school

Pictures of the robot under development

Information about your robot and team

What you hope to achieve in robotics

Why made you decide to come to RCJI Bremen?

Who/what helped you to get to Bremen?

Any interesting or unusual feature about the team, robot, your background or your entry.

7.3.

Officials will review the documentation and may discuss the contents with team members. A prize will be awarded to the team with the overall most outstanding presentation.

7.4.

Teams are encouraged to visit each other's posters.

7.5.

Teams are encouraged to have a Web site where they describe their projects to the RCJ community.

Last updated by **dancechair** on 01/18/06

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RCJI (Bremen) 2006: DANCE INTERVIEW EVALUATION

TOTAL SCORE	/23
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Team Name: _____	Division: Primary or Secondary (circle one)
Country: _____	



tick number of points scored for each criteria

NOTE: SEVERAL CHANGES FROM 2005

POINTS 0 1 2 3	<u>Robot Design & Construction**</u> The appearance and construction of the robot shows...	TOTALS
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Design & construction was largely students' own <small>Commercial robot = 0, commercial kit (eg: Lego) = 1, hand-built = 3</small>	/3
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Gearing, linkages, pivots, (other non-basic features) used in design and drive mechanisms (reward design for complexity IF it aids movement)	/2
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Students successfully addressed problems of robot balance and structural soundness in design <small>(eg: how did you stop x from becoming loose during the performance? What have you done to prevent your robot(s) breaking if they fall?)</small>	/3
TOTAL		/8

POINTS 0 1 2 3	<u>Programming and Preparation</u> Through experience, research and teamwork the team shows:	TOTALS
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	They can explain, describe and understand their program thoroughly <small>(eg: what does this section of program tell the robot to do? If I changed this part to become x, what effect would that have on the robot?)</small>	/3
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Complex, innovative or original programming used or programming level appropriate to age and expertise level ¹ <small>(eg: use of jumps/lands, loops, nested sections, creation of own icons or sequences, etc)</small>	/3
<input type="checkbox"/> <input type="checkbox"/>	They are able to explain connections between the program and music selected <small>(eg: how do you get your robot to synchronise to the music chosen?)</small>	/1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	They were able to work as a team ² <small>(eg: how did you share the tasks? How did you make decisions?)</small>	/2
TOTAL		/9

POINTS 0 1 2 3	<u>Sensors & Technology**</u> Robot shows a...	TOTALS
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Use of sensors: <small>(eg: programming to respond to sensors, use of sensors to trigger next part of performance, evidence of programming to keep the robot within the stage boundaries, effectiveness of sensors used, etc)</small>	/3
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Use of other technologies: <small>(eg: use of unusual technologies such as infra-red, sonar, GPS, in-built timer to monitor duration of performance, etc)</small>	/3
TOTAL		/6

**aspects of this section also assessed in performance

¹Servo motors do not use programming structure comparable to rotary motors – judges should make allowance for this when scoring robots using such programs.

²if only one member in this team, delete this criteria and mark the section out of 7: indicate this on the sheet!

Keep this team in mind for an award for



RCJI (Bremen) 2006: DANCE PERFORMANCE EVALUATION

TOTAL SCORE /37

Team Name: _____

Division:
Primary or
Secondary
(irideane)

Country: _____

tick number of points scored for each criteria **NOTE: SEVERAL CHANGES FROM 2005**

POINTS 0 1 2	Robot Design & Construction** The design and construction of the robot(s) results in...	TOTAL S
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Robot was stable and reliable throughout performance	/2
<input type="checkbox"/> <input type="checkbox"/>	Movements smooth and controlled.	/1
TOTAL		/3
POINTS 0 1 2 3 4	Sensors & Technology**	
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Stayed within the defined dance area (6 x 4m) (NB: no excursions = 4, each excursion reduces score by 2.)	/4
TOTAL		/4
POINTS 0 1 2 3 4	Robot Costume(s) and props: The appearance of the robot involved...	
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Costume used on robot (no costume = 0, commercial = 1, hand -made = 2 or 3)	/3
<input type="checkbox"/> <input type="checkbox"/>	Costumes stayed in place throughout performance (yes = 1, no = 0)	/1
<input type="checkbox"/> <input type="checkbox"/>	Variety of materials, colours and arrangements used, (standard materials, etc = 0, variety = 1)	/1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	additional robots/lights/moving parts/sound or light effects used (+1 for each: reward dynamic props more heavily than static props)	/2
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Props (scenery, human costumes, human interaction or dancing) <u>complemented</u> robot(s) performance (+1 for each. Does human interaction ADD to robot's performance or DISTRACT from it?)	/4
TOTAL		/11
POINTS 0 1 2 3	Choreography and use of stage: The dance performed by the robot(s)...	
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Included movements and sequences <u>in time</u> with the rhythm /beat of the music (or complemented the music). (robot's movements random = 0, some match to rhythm = 1, sharply in time with music rhythm = 2 or 3)	/3
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Included more difficult movements/sequences: students took risks. (basic and repetitive movement = 0, going close to boundary, risking balance, co-ordination between multiple robots, sequencing robot movement to an event, etc all +1)	/3
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Made use of the dance space (6x 4m) creatively to provide interest. (staying in one location = 0, moving about floor to use most of area <u>OR</u> filling floor area with props = 1 or 2)	/2
TOTAL		/8
POINTS 0 1 2 3	SECTION 3: Entertainment Value The presentation and performance...	
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Was varied and non repetitive, used innovative, original and/or unusual movements, held interest (repetitive movement = max of 1, reward interesting & entertaining movement up to 3)	/3
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Robot(s) appearance and performance was appealing	/2
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Set-up and performance was within the allotted time (5 minutes maximum: dance > 1 minute, < 2 minutes,) <u>including restarts</u> (reduce score by 1 for every 10 secs over 5 minutes overall <u>OR</u> under 1 minute for performance)	/3
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Was performed without restarts (excluding music miscues) or need for human intervention (no restarts = 3, 1 restart = 2, 2 restarts = 0)	/3
TOTAL		/11

**aspects of this section also assessed in interview.

Keep this team in mind for an award for