

Program of course “Modern school Informatics curriculum: primary, base, advanced levels”

Course created for teachers of Informatics on the development of competencies of teachers in the field of self-examination of your portfolio, and familiarize teachers with models profile content and techniques for working with children in the Olympiad in Informatics.

Course include two Part.

June - Part 1 (without payment)- to be trained on MOOC Rusere (English) <http://rusere.ru/learning/ikt/msi/> (Registration on the site www.Rusere.ru with waiting for course access from the course curator)/ 36 h./ e-certificate). The number of participants in Part 1 training from the country in MOOC is not limited.

1-11 July - Part 2 (admission fee 50 euros for member of The Distance ISIJ) - participation in Distance ISIJ (Registration and payment of the admission fee Distance ISIJ is carried out by the ISIJ Office). Participation by Rules of Distance ISIJ)/ 44 h./certificate ISIJ deputy coach. Registration do the country's tutor of team. Up to 5 teams from the country (30 team members) and the country team tutor are invited to participate in Part 2.

The Schedule Part 1. MOOC

Part 1 includes 5 topics, texts materials: curriculum for different grades in the school, methods of Olympiad preparing, additional materials and experience about orientation students in IT professional area, program for digital curator in the school for support training in Digital literacy for all kids and school teachers.

Mentor this course in country can use for control set of questions for discussion in training group.

Course is MOOC and give electronic Certificate Rusere.ru after special online test. Any center for teachers in country can use this course for organizing training for teachers group offline with country mentor.

For each topic of course has material for study, research, discussion and testing.

Topic 1. 6 h.

1.Continuous course in informatics. Experience of Russia. Curriculums on informatics (4 h.):

the primary school (1-4 K),

the secondary base school (5-9 K)

the high school (10-11 K)

2. IT lyceum: concept of school of specialized informatics 1h

3. Features of advanced computer science for primary school. 1 hour

Questions to Topic 1. 1 hour:

1. Analyze the invariant topics of the computer science course for all levels of learning

2.Analyze the continuity of computer science skills by learning level

3.To identify the peculiarities of the school of specialized informatics using the example of IT lyceum taking into account the role of the university in the work of such a school

Topic 2. 6 h.

1.Curriculums on Olympiad informatics. Continuity of school course of informatics and Olympiad informatics. 2 h.

2. Road map of Olympiad trainings (3 year cycle). Technique of Olympiad trainings: structure and content of materials on Olympiad informatics. 2 h

3. Age groups of talent development. Skills of Olympiad preparation of the highest achievements by age stages of growth. 2 h

Questions to Topic 2. 1 hour:

1. What age groups can be allocated for Olympiad preparation

2. How IOI syllabus reflects continuity of school course informatics and Olympiad informatics

3. As in the cycle of trainings the balance of work of the trainer and independent work of students during Olympiad preparation is taken into account
- 4 What 10 key competences of Olympiad preparation reflect movement to the highest results.
5. What indicators of achievement of competences allow to provide monitoring of talent development and to form an individual development plan in the system of Olympiad training

Topic 3. 6 h.

- 1.Information Science Olympiad and IT Career Guidance 1 h.
- 2.Place of Olympiads in computer science in the system of computer science education in school and motivation in the IT sphere. 1 h.
- 3.National Olympiads in informatics and IT in mass involvement of children in creativity by means of IT and programming - a role in the development of IT personnel in the country.1h.
4. Features of mass involvement of children in creativity on the basis of IT and on the basis of competitions and Olympiads.1h.
5. Experience of Russia in competitions and Olympiads in the field of Informatics and IT. 1h.
- 6 Role of IOI for identification of talents in the field of informatics. IOI-Statistics of results of member countries. 1h.

Questions to Topic 3. 1 hour:

1. Analyze the structure of your national Olympiad: by growth groups, stages of selection, coverage of schools and children
2. What system of Olympiads in informatics and IT allows to ensure the maximum inclusion of schoolchildren in the IT sphere
3. How the system of identification and preparation of the best schoolchildren for the Olympiads and competitions in your country has been formed.

Topic 4. 6 h.

- 1.Exemplary IT development program of the informatics teacher complex. 2h.
- 2.Competences of the modern teacher in digital world. Digital Curator for Schools. 2h.
- 3.Training of coaches in informatics. 2h.

Questions to Topic 4. 1 hour:

1. List the life (common milking of all) digital competences of teachers
2. List the social digital competencies of teachers as new tools and resources become available
3. Analyze and identify the profile digital competences of informatics teachers taking into account the development of the curriculum on informatics, techniques of Olympiad informatics and various competitions on IT, and opportunities for the network school of informatics and new digital technologies of education publicly accessible to all children in the country.

Topic 5. 6 h.

- 1.Network school of informatics. Model of coverage of all motivated schoolchildren in informatics, including in conditions of shortage of teaching personnel and trainer s staff. 4 h.
2. Use of remote technologies of education and digital television for state support of computer science training taking into account the development of new IT. 2h.

Questions to Topic 5. 1 hour:

Project. Discuss the scheme of organization and development of network school of informatics for your country using Mass open online courses (MOOC) and opportunities of digital television and videoconferencing. Form the list of MOOC on Informatics and IT for students and teachers

Total Test

The schedule Part 2. Distance ISIJ

June 21-July 1- Days of registration in online rounds system

July 2- Trial round / STC Forum (rules of ISIJ)/ List of group A and B/ List of group coaches/ CC Forum

July 3-Class 1: round A and round B/ offline Seminar/ STC Forum/ CC Forum

July 4- Class 2: round A and round B/ offline Seminar/ STC Forum/ CC Forum
 July 5- Class 3: round A and round B/ offline Seminar/ STC Forum/ CC Forum
 July 6- Class 4: round A and round B/ offline Seminar/ STC Forum/ CC Forum
 July 7- Class 5: round A and round B/ offline Seminar/ STC Forum/ CC Forum
 July 8 – Presentation of country's teams (PPT for page <http://isi-junior.com/about/newspaper.php>)
 July 9- ISIJ-Cup/ offline Seminar / IOC Meeting by the results of the ISIJ
 July 10 – Awarding online ceremony for ISIJ nominations
 July 11-Total IOC Report

Agenda	Topic of session	Control on topic in discussion group
Part 1		
MOOC member	MOOC Sessions	36 hours
Distance Session 1	Topic 1. Discussion 1	6 h. 1h.
Distance Session 2	Topic 2. Discussion 2	6 h. 1h.
Distance Session 3	Topic 3. Discussion 3	6 h. 1h.
Distance Session 4	Topic 4. Discussion 4	6 h. 1h.
Distance Session 5	Topic 5. Discussion 5	6 h. 1h.
Control test		Free time
E-Sertificate of course	Distance Session	36 h.
Part 2		
ISIJ member	Online summer ISIJ	44 hours
Round 1	Contest Analyze solution of problems IT club	4 h 2 h. 2 h.
Round 2	Contest Analyze solution of problems IT club	4 h 2 h. 2 h.
Round 3	Contest Analyze solution of problems IT club	4 h 2 h. 2 h.
Round 4	Contest Analyze solution of problems IT club	4 h 2 h. 2 h.
Round 5	Contest Analyze solution of problems IT club	4 h 2 h. 2 h.

sum		40 h.
Robot-tournament	Analyze Contest	2 h.
ISIJ-Cup	Analyze solution of problems	2 h.
sum		4 h.
Certificate deputy coach of ISIJ	ISIJ summer session (without e-certificate for 36 h)	44 h.
Diploma coach of ISIJ (gold, silver, bronze)	ISIJ intern summer session (if you have e-certificate for 36 h)	80 h.