



NASE BOXES ONLINE

Introduction

NASE COURSES are mainly courses with a special character, they are very practical. So, it is not easy to offer a transmission presentation when the situation is not good for face-to-face courses.

However, we live in new and existing times when the different audiences can have different approaches to the knowledge. The technology arrives to stay as part of our life and new and innovative products associated with new communication tools must be part of the training courses. In the case of NASE Program, the responsible committee discussed for a long time in which way to start this approach, because the core of this proposal, is not ole hands-on activities, but also face-to-face actions.

The year 2020 will be recognized in the future, as the “year when all the planet was in danger: because a pandemic. This is a very new situation for the humanity. In this context, NASE-Program developed a mix proposal, with activities than can be made at home, with the help of trainers online, but in all the cases thinking on “live presentation in real time”.

The innovation in this project is centered in the distribution of the NASE-boxes, with all the material needed for the different courses (full and monographic) which will permit to develop each activity at home or at the school in any place on the Planet, the participation will be certificate as long as the participants complete the activity in contact with the trainer, online.

This new offer is a real challenge for NASE. We hope to have a good response from different communities and to help to include astronomical contents in places where the face-to-face activities are very difficult.

Description of NASE-boxes online

To facilitate an online NASE course, organizers can use the materials needed for hands-on activities included in a NASE box. Local organizers can request receipt of NASE boxes by post. If they have all the NASE materials before starting the course, they can repeat the activities that they can see online during the course.

Of course, there is a possibility that participants in the online course will ask to borrow the box to the Local Working Group for a specific period of time.

There are different kind of NASE courses, that is to say there are the same number of **NASE boxes online**

NASE offers boxes that included all materials necessities in order to teach NASE courses. There are different kind of courses:

- The basic course, the full course, which included astronomy, astrophysics and

astrobiology. This is the biggest one box of NASE. The course involves 4 lectures and 10 workshops.

- The course on astronomy in a not so big box. This course involves 2 lectures and 4 workshops.
- The course on astrophysics in a smaller box. This course involves 2 lectures and 4 workshops.
- The course on astrobiology in a smaller box. This course involves 2 lectures and 4 workshops.
- The course on astroculture in a smaller box. This course involves 2 lectures and 4 working groups.

The list of materials is detailed for each course in “Books” section of the web page. The guide of the courses is in the NASE website and also the books with all details about how to use the materials included.

This methodology is not prepared in order to substitute the face to face courses, but it is a good idea especially for the Local Working Groups that need special support in order to introduce some new contents and some changes such as exoplanets or astrobiology.



It is a good way to exchange new details and new aspects that it is necessary to introduce periodically in the courses.

Work plan NASE: ONLINE

1. TEACHING TRAINING COURSE ON ASTRONOMY AND ASTROPHYSICS – 4DAYS

	Day 1	Day 2	Day 3	Day 4
09:00-09:30	Opening S.			
09:30-10:00	Workshop 3	Workshop 2	Workshop 4	Workshop 9
10:00-10:30		Workshop 5	Workshop 7	
10:30-11:00				
11:00-11:30	Workshop 1	Workshop 6	Workshop 8	Workshop 10
11:30-12:00				
12:00-12:30				
12:30-13:00				Closing S.

- **Lectures Topics**

- 1 – Evolution of the Stars
- 2 – Cosmology
- 3 – History of Astronomy
- 4 – Solar System

- **Workshops Topics**

- 1 – Local Horizon and Sundials.
- 2 – Stellar, solar and lunar demonstrators
- 3 – Earth-moon-sun system: phases and eclipses
- 4 – Young astronomer briefcase
- 5 – Solar spectrum and sunspots
- 6 – Stellar lives
- 7 – Astronomy beyond the visible
- 8 – Expansion of the Universe
- 9 – Planets and exoplanets
- 10- Astrobiology

Evaluation

- At the beginning of the course, an optional written diagnostic evaluation is carried out (multiple choice). At the end of the course, another one control the knowledge obtained which consists in the same test than diagnosis one (same paper, answers with different color).

- During a couple of days a final satisfaction evaluation is made on line,

- Finally, one proceeds to an impact assessment (or monitoring of the learning transfer) after a few months. This task covers more of an axis of action:

- The projects generated from the course are shared in the NASE web page:

<http://sac.csic.es/astrosecundaria/es/cursos/realizados/proyectos/ListaProyectosPaíses.php>

2. TEACHING TRAINING COURSE ON ASTRONOMY – 2 DAYS

	<u>Day 1</u>	<u>Day 2</u>
17:00-17:30 hs.	Opening S.	
17:30-19:00 hs.	Workshop 1	Workshop 3
19:00-19:30 hs.	break	break
19:30-21:00 hs.	Workshop 2	Workshop 4
21:00-21:30 hs.		Closing S

- **Lectures Topics**
 - 1 – History of Astronomy
 - 2 – Solar System
- **Workshops Topics**
 - 1 – Local Horizon and Sundials.
 - 2 – Stellar, solar and lunar demonstrators
 - 3 – Earth-moon-sun system: phases and eclipses
 - 4 – Young astronomer briefcase

The evaluation of this course is equivalent to the previous NASE course mentioned.

3. TEACHING TRAINING COURSE ON ASTROPHYSICS– 2 DAYS

	<u>Day 1</u>	<u>Day 2</u>
09:00-09:30 hs.	Opening S.	
09:30-11:00 hs.	Workshop 1	Workshop 3
11:00- 11:30 hs	break	break
11:30-13:00 hs.	Workshop 2	Workshop 4
13:00-13:30 hs.		Closing S.

- **Lectures Topics**
 - 1 – Evolution of the Stars
 - 2 – Cosmology
- **Workshops Topics**
 - 1 – Solar spectrum and sunspots
 - 2 – Stellar lives
 - 3 – Astronomy beyond the visible
 - 4 – Expansion of the Universe

The evaluation of this course is equivalent to the previous NASE course mentioned.

4. TEACHING TRAINING COURSE ON ASTROBIOLOGY – 2 DAYS

	<u>Day 1</u>	<u>Day 2</u>
18:45-19:00 hs.	Opening S.	
19:00-20:30 hs.	Workshop 1	Workshop 3
20:30-21:00 hs	break	break
21:00-22:30 hs.	Workshop 2	Workshop 4
22:30-22:45 hs.		Closing S.

- **Lectures Topics**
 - 1 – Evolution of the Stars
 - 2 – Solar System
- **Workshops Topics**
 - 1 – Young Astronomer Briefcase
 - 2 – Astronomy beyond the visible
 - 3 – Planets and exoplanets
 - 4 - Astrobiology

The evaluation of this course is equivalent to the previous NASE course mentioned.

5. TEACHING TRAINING COURSE ON ASTRO - CULTURE– 2 DAYS

	<u>Day 1</u>	<u>Day 2</u>
09:00-09:30 hs.	Opening S.	
09:30-11:00 hs.	Working Group 1	Workshop 3
11:00-12:30 hs.	Workshop 2	Working Group 2
12:30-13:30 hs.		Closing S.

- **Lectures Topics**
 - 1 – History of Astronomy
 - 2- Archaeoastronomy and its educational potential
- **Workshops Topics**
 - 1 – Working Group 1: Preparing Observations
 - 2 – Workshop: Stellar, solar and lunar demonstrators
 - 3 – Workshop: Local Horizon and Sundials
 - 4 - Working Group 2: Astronomy in the city

The evaluation of this course is equivalent to the previous NASE course mentioned.