EDUTRONIX

Interactive Education Module for Mechatronics

Project information

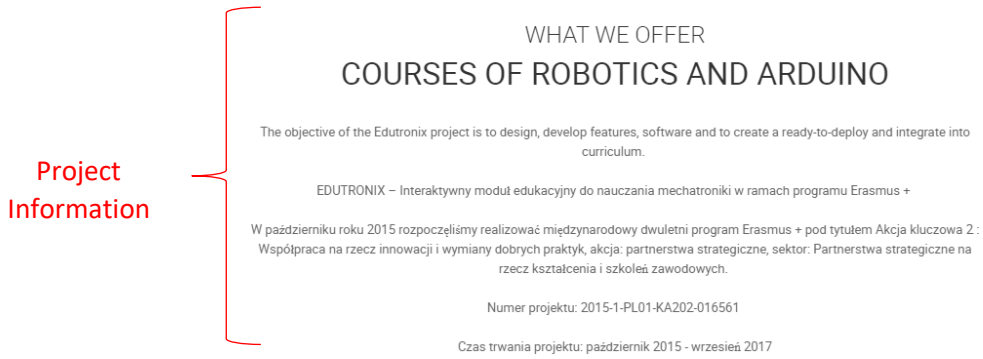
Project acronym	EDUTRONIX
Project title	Edutronix - Interactive Education Module for Mechatronics
Programme	Erasmus+
Key Action 2	Cooperation for innovation and good practices, Strategic partnerships for education and vocational training
Project number	2015-1-PL01-KA202-016561
Beneficiary organization	CKZ - Centrum Ksztalcenia Zawodowego w Wysokiem Mazowieckiem
Project web site	http://www.edutronix.eu
Report version	Part of Intelectual Output 05
Date of preparation	November 2017
Draft by	AIJU

This project has been funded with support from the European Commission. This report reflects the view only from the author and the Commission cannot be held responsible for any use which may be made of the information contained herein.

How to use Edutronix Platform?

The **Edutronix Platform** is divided in two parts:

- The **cover**, where we will find information about the Partners and the different Outputs.



Access to the Course

PARTNERS

(CKZ-PL) Centrum Kształcenia Zawodowego w Wysokiem Mazowieckiem

Centrum Kształcenia Zawodowego in Wysokie Mazowieckie is one of the most modern technical schools in northern part of the country. The school educates its students in many interesting and prospective departments on vocational and technical level, graduates gain not only necessary theoretical knowledge but also competences necessary for developing future careers. Although its history is not a very long one, as it dates back to 2002, the school can already boast about a range of achievements. It actively participates in various competitions, conducts charity events, organizes assemblies. In 2014 the school embarked on a new journey, Erasmus+ projects. Since then it has been successfully offering its students internships in countries like: Turkey, Portugal and Ireland. Another challenge taken up by the school authorities is Edutronix, a project designed to popularize and disseminate a branch of science, mechatronics.

The school offers modern, spacious and well equipped classes and laboratories. Students enjoy working with teachers, constantly upgrading their skills and the latest equipment meeting all the European standards.

Apart from focusing on technical peculiarities and solutions the school stands guards to tradition and moral values. It bears the honourable name of the Polish Home Army and pays attention to preserving its history and importance.

(AIJU-ES) Asociacion de Investigación de la Industria del Juguete, Conexas y Afines

AIJU research centre is a private, non-profit making organization aiming to boost research, development and technological innovation within toy and related industry, thus making it possible the achievement of a constant competitiveness increase in the sector. During 2014 the number of associated companies surpassed 500, most of them SMEs.

AIJU constantly adapts and evolves along with the industry of the region to provide them with timely and proper solutions. Therefore, AIJU does carry out a key role for the benefit of the regional industry since most companies are SMEs with limited possibilities to undertake the actions to achieve competitiveness and innovation by themselves.

AIJU capabilities are focused on toy and children's products industry and comprise disciplines such as materials and processes, rapid manufacturing and prototyping, logistics, environment, pedagogy/product, energy, social technology, innovation, management and toy safety regulations. In fact, AIJU was the first body recognized by the Spanish Government to carry out tests and laboratory reports according to the European Directive on safety of toys. Therefore, we support our associates through our four specific departments: Laboratory-Product Development Engineering, Management & Innovation, Pedagogy-Product and Training achieving a remarkable level of confidence and cooperation with our associates.

AIJU is a technology centre that is at the forefront of ICT technologies, with more than 70 professionals in our staff, AIJU has a multidisciplinary team that allows to cover projects from technological and social topics. It also provides a vision of the World of Work in educational projects, providing real case studies and adapted to reality.

Partners Information

ABOUT PROJECT

OBJECTIVES

The objective of the EDUTRONIX Project is to design, develop features, software and to create a ready-to-deploy and integrate into curriculum - the interactive educational module for technician of mechatronics during 24 months period.

It introduces new methods and tools for vocational training, which enable active cooperation between teachers and students and also more effective and practical than conventional, as well as more expressive and efficient than traditional use of technology in teaching.

Project Objectives

EXPECTATIONS

The project is expected to:

1. Design a model for teaching mechatronics (the constant on-line access).
2. Develop model assumptions used for research in the field of mechatronics education.
3. Design a model utility for companies.
4. Software and model a set of assumptions for vocational education with use model.
5. Preparation of interactive module and technical documentation.
6. Innovative implementation of interactive program in mechatronics education using module.

Edutronix Facebook Page

Regarding Product development: we customized products by means of rapid prototyping and additive manufacturing technologies for disabled, high tech sport articles, etc., graphic and industrial design, electronic prototypes development, moulds adjusting/adapting & functionality providing, etc.

(CIS-IT) Scuola per la Gestione D'Impresa

CIS - Scuola per la gestione di impresa- is the training and consultancy company of Unindustria Reggio Emilia; the Association of entrepreneurs of Reggio Emilia.

With a staff of 27, CIS has been confirmed as the key training company of the Reggio Emilia industrial system, one of the more competitive industrial districts in Italy in terms of export, medium-high tech specialisation and R&D intensity. The district is specialised in mechatronics which is one of the 5 smart specialisation of Emilia Romagna regions.

The main goal of CIS is to contribute to the development of entrepreneurship, competitiveness and innovation of regional enterprises through ad-hoc consultancy and specialized (vocational and corporate) training services that meet business needs. CIS designs and develops both market financed training packages (vocational and corporate intensive courses) and funded projects under national or EU resources. One of its most successful training packages is "Master International Business studies", a market based graduate course which has reached its 18th year of activity and is aimed at graduates for a career in commercial and international business departments.

CIS, in close collaboration with the Association of entrepreneurs and the University of Modena and Reggio Emilia designs and manages vocational and corporate training courses, dissemination activities and workshops aimed at expanding R&D opportunities for SMEs especially in an interregional and cross-border perspective.

CIS cooperates with all the organizations located in the Reggio Emilia area (NUTS 3 province, about 500 thousands inhabitants) in particular with the education system (technical and non-technical high schools, University of Modena e Reggio Emilia) and the local innovation supporting actors (like Reggio Emilia Innovazione, the local innovation agency) to foster a unique strategy devoted to promote the local manufacturing base and its key strategic specialization of mechatronics.

(PP-PL) Perfect Project Spolka z ograniczona odpowiedzialnoscia

Perfect Project LLC is a training and research institution specialized in the field of education and training projects, both at a national and international level which employees have more than 11 years of experience in the field of higher education, vocational trainings, formal and non-formal education. Perfect Project LLC was created to support education especially through individually tailored ;trainings.

The three main pillars of the company's activities in this field are based on the fundamental aspects of education, namely:

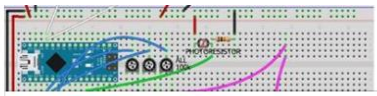
1. Adult education - by regular and on demand training courses.

2. Secondary education - by supporting vocational training centers and schools in the region.

3. Development of civic attitudes and social activities through information, transfer of knowledge and preparing entities and individuals to greater absorption of external funds for their development.

One of the major goals of Perfect Project LLC is to improve accessibility and quality of vocational and adult trainings, by specially designed methodologies, procedures and methods. We are capable to create tailor-made training for every participant.

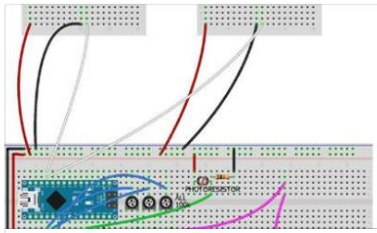
We also care about SMEs needs and their effective cooperation with education and higher education system with the positive effect on attractiveness of trainings at European level.



[PROJECT] Scary Eyes - Arduino controlled LED ...
#ShareTheScare this Halloween Visit our Halloween space and find out how...
ELEMENT14.COM

Me gusta Comentar Compartir

Edutronix
hace aproximadamente un mes



[PROJECT] Scary Eyes - Arduino controlled LED ...
#ShareTheScare this Halloween Visit our Halloween space and find out how...
ELEMENT14.COM

Me gusta Comentar Compartir

Álbum International Conference Edutronix Project.

Edutronix
hace aproximadamente 2 meses

Multiplier Event held in Poland, 20-September-2017

10 Comentar 1

Edutronix
hace aproximadamente 2 meses

All is ready for the International Conference of the Edutronix Project

Todo está listo para la conferencia internacional del proyecto edutronix
Traducido

CONTACT US

You can connect sending a email to edutronixeu@gmail.com

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Szkolenie Hiszpania

Szkolenie Wéochy

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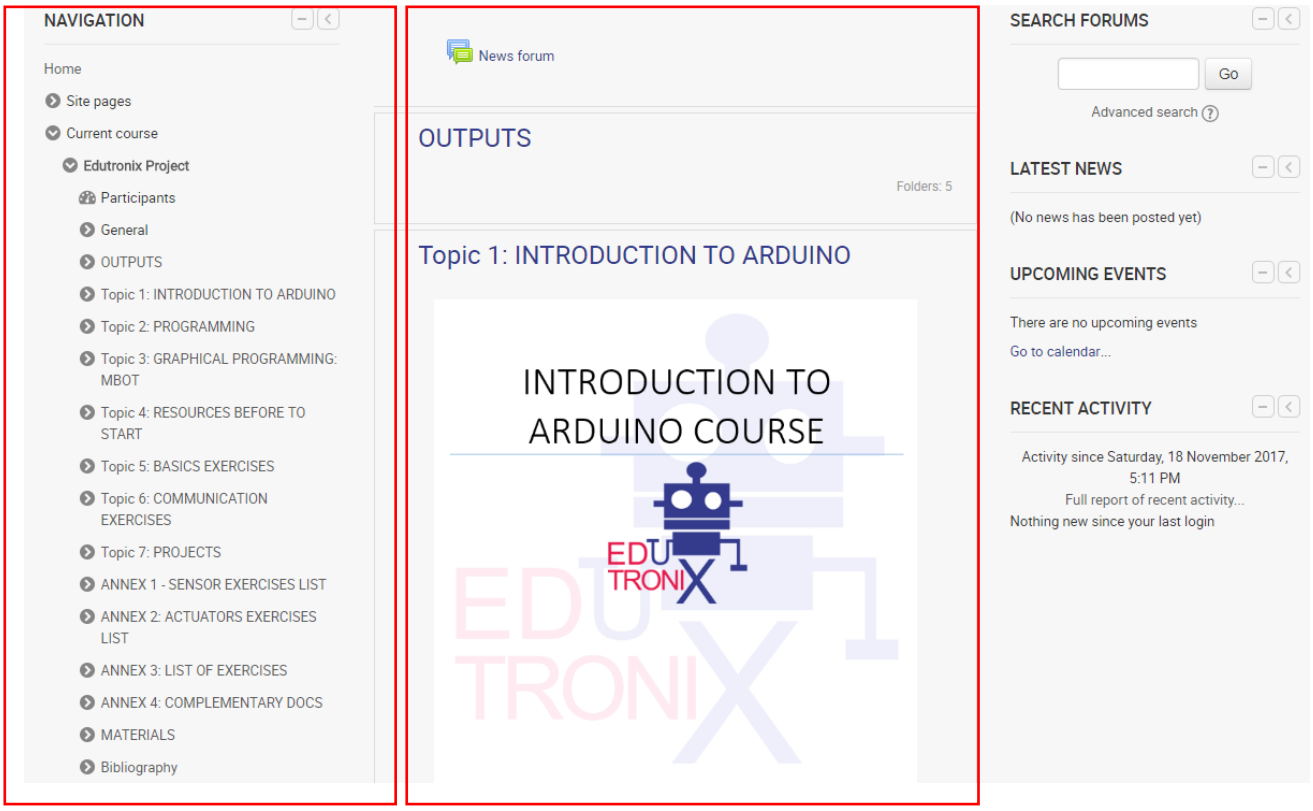
Co-funded by the Erasmus+ Programme of the European Union

- The **course**, where we can train in the field of mechatronics:



Navigation Menu

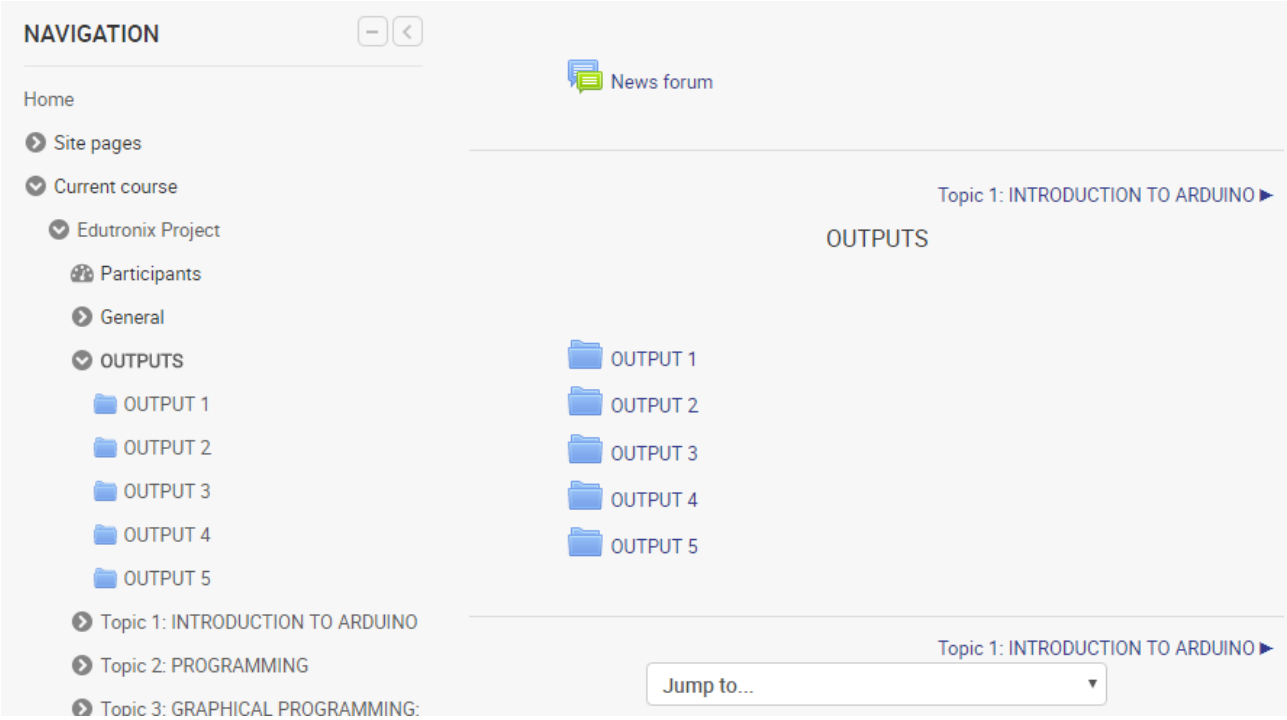
Course Content

In the course we can find:

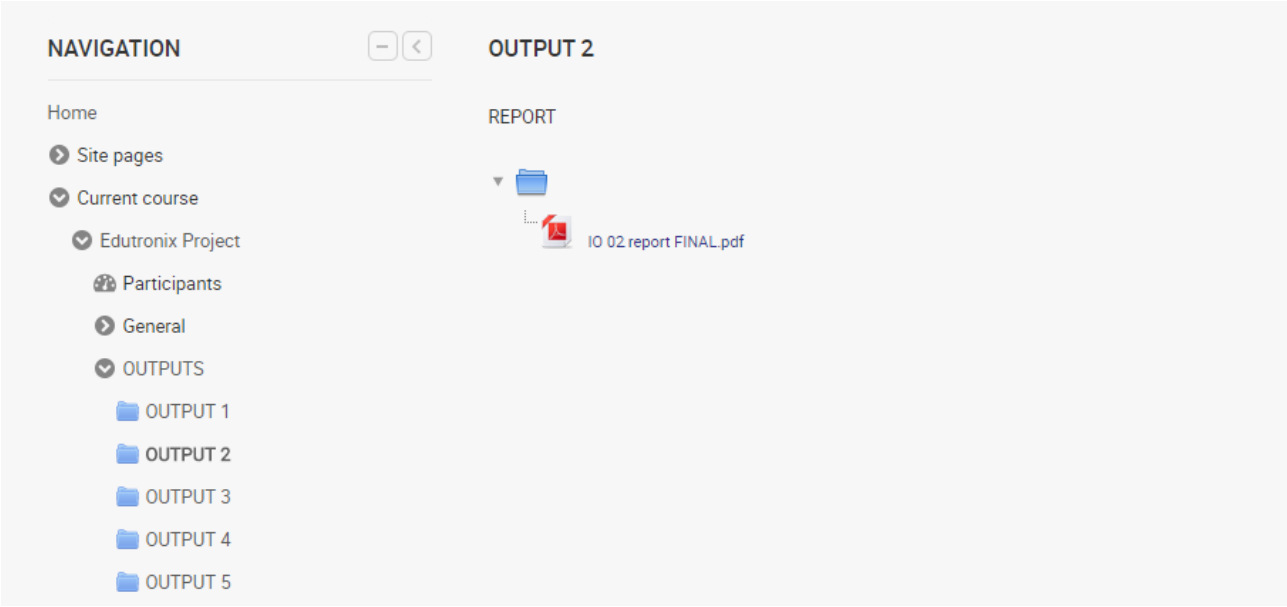
- ❖ All the **Ouputs** of the project.
- ❖ 7 **Topics** with the **mechatronics training**.
- ❖ 4 **Annexs with** different **Exercises**.
- ❖ A **Material List**.
- ❖ A **Bibliography**.

Below is a detailed description of each section of the course.

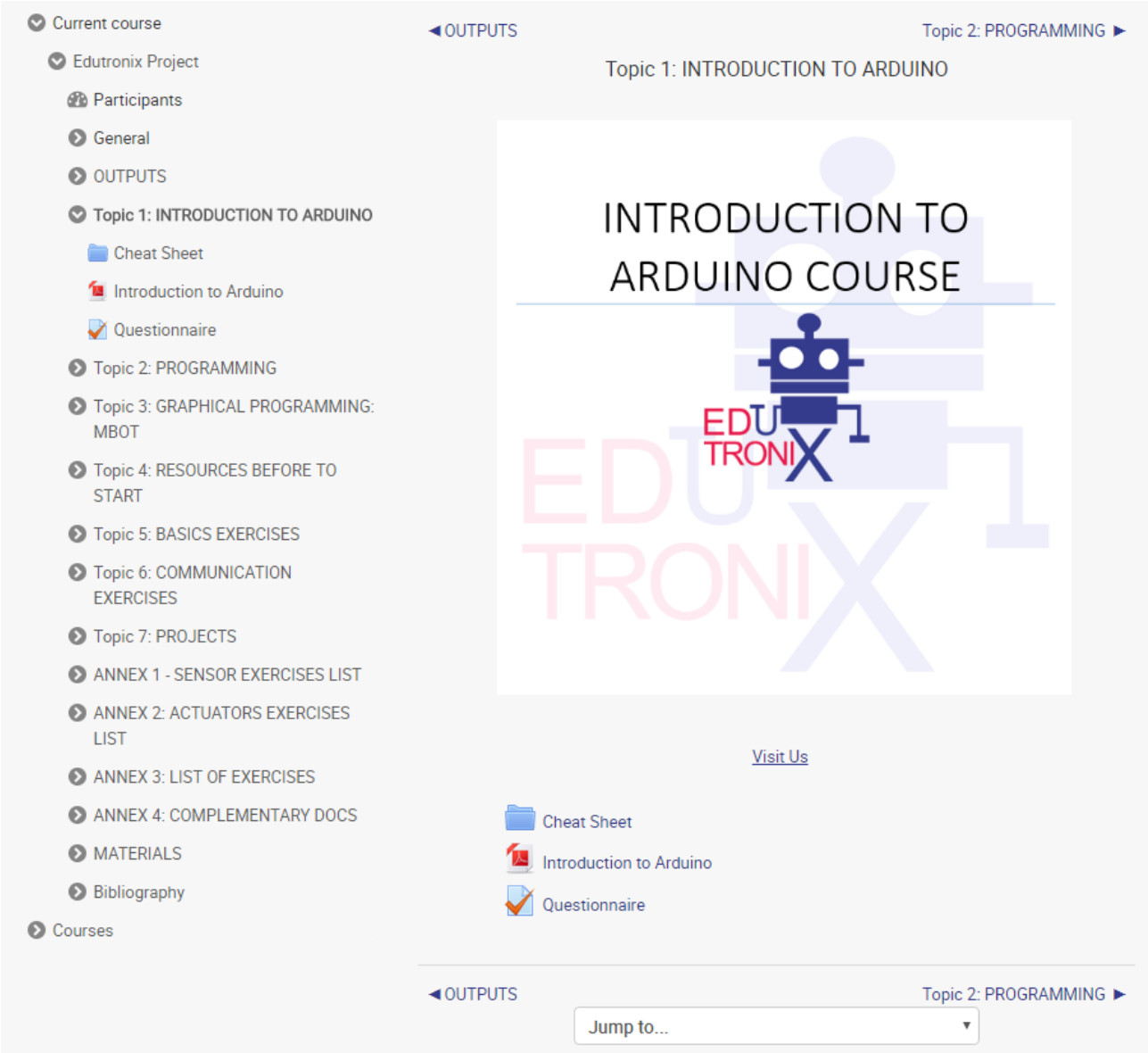
- Outputs:
  - You can find the all outputs of project.



For example, Output 2 view

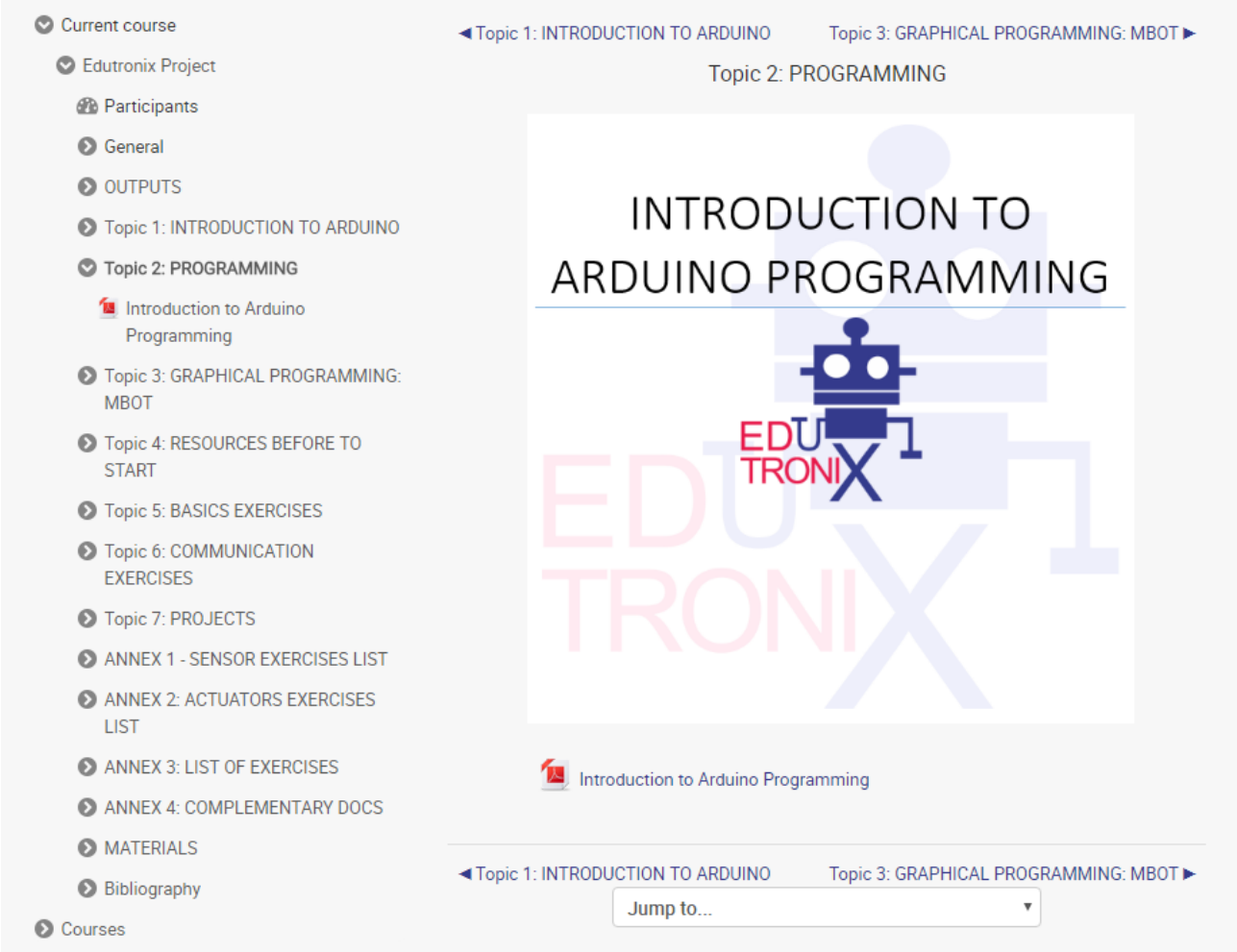


➢ Topic 1 - **Introduction to Arduino**:



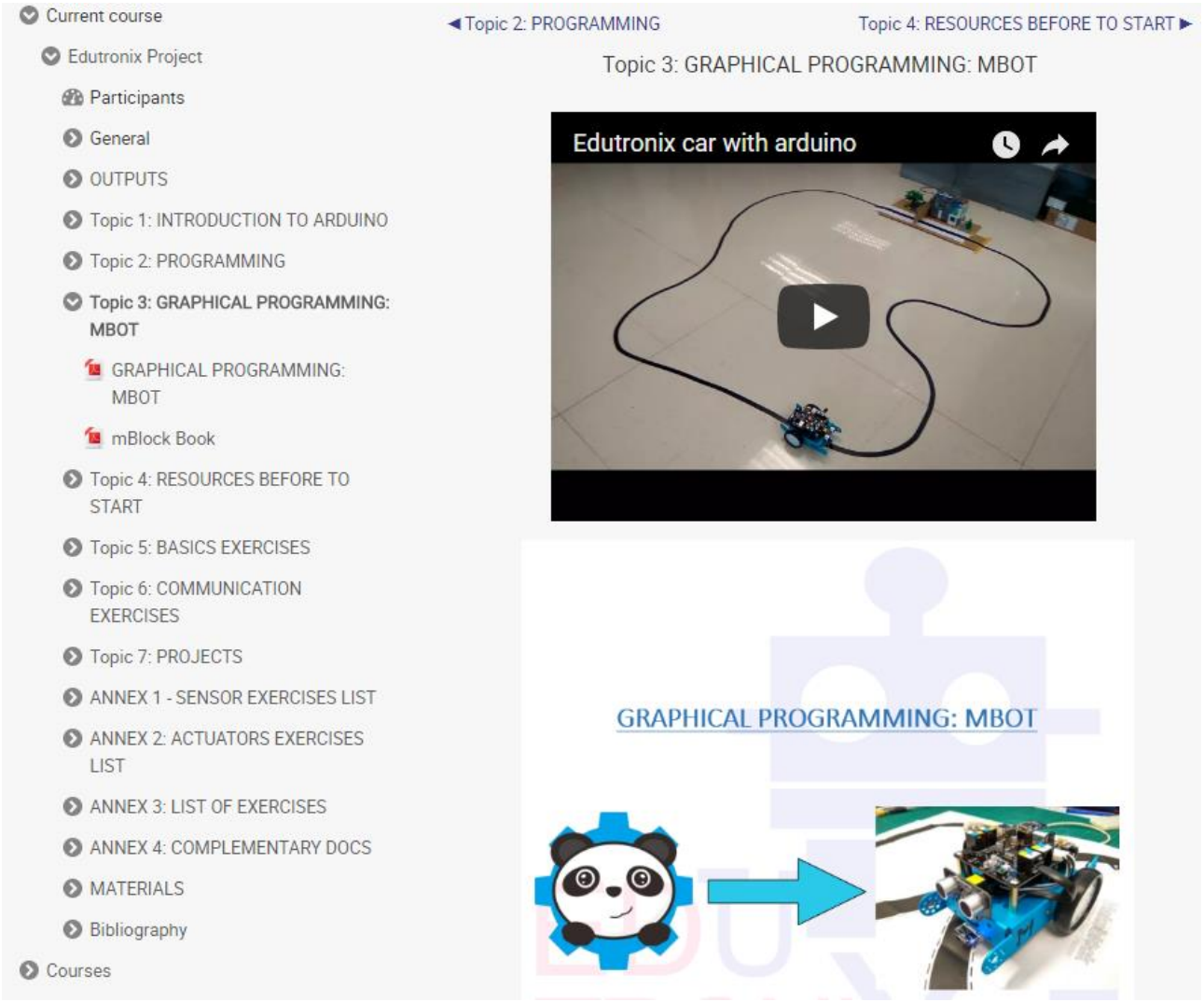
- In this topic you have:
  - An "**Introduction to Arduino Course**" PDF.
  - A **Cheat Sheet** PDF.
  - A **Questionnaire** of the previous PDFs.

➢ Topic 2 - **Programming**:



- In this topic you have:
  - An "**Introduction to Arduino Programming**" PDF.

- Topic 3 - **Graphical Programming**:



GRAPHICAL PROGRAMMING: MBOT

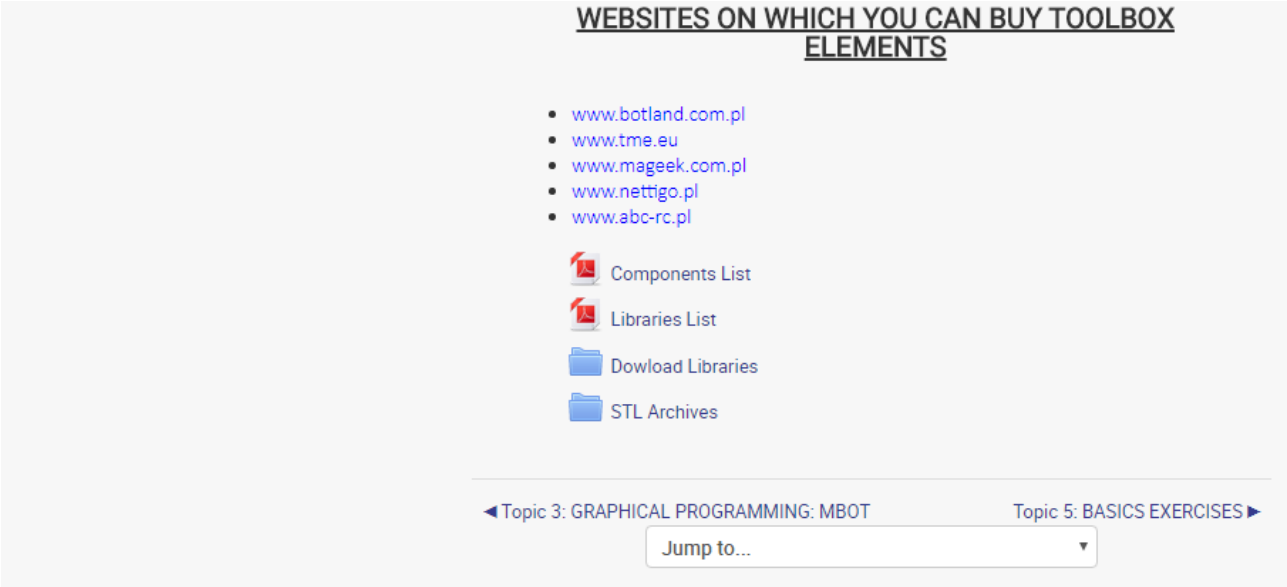
mBlock Book

◄ Topic 2: PROGRAMMING Topic 4: RESOURCES BEFORE TO START ►

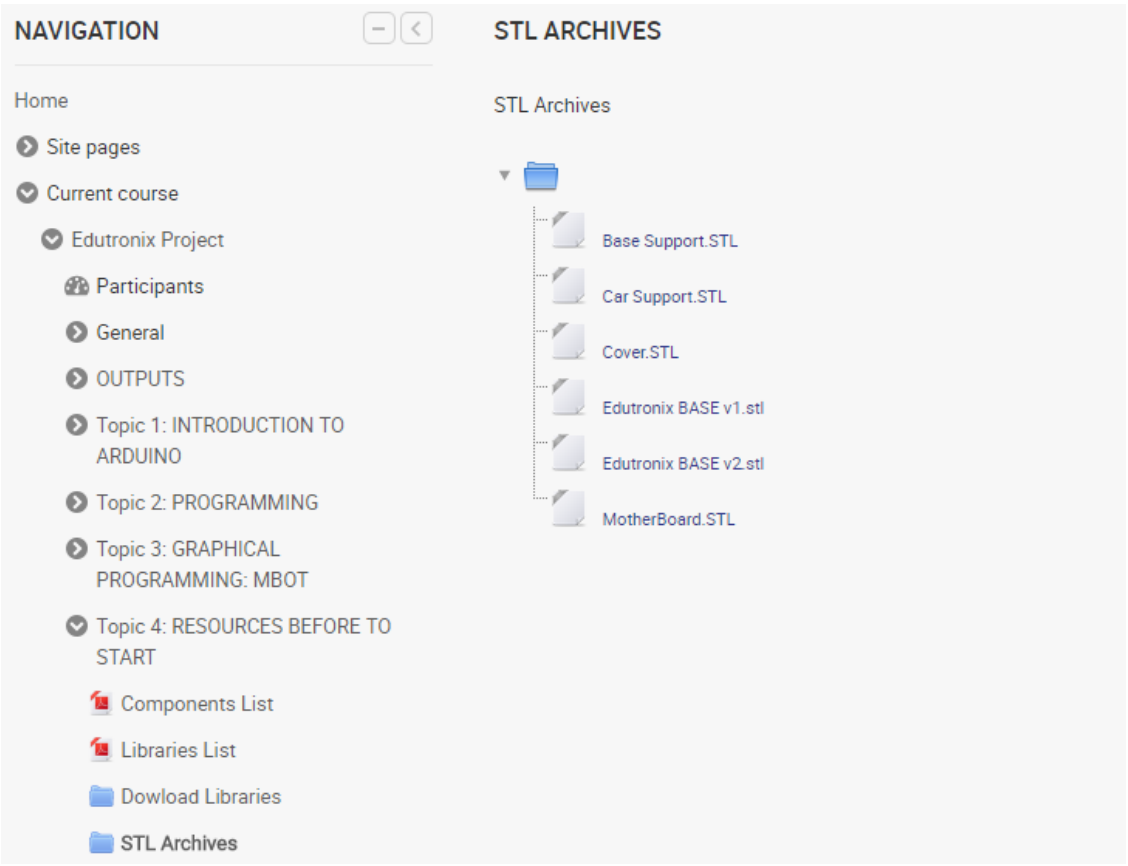
Jump to...

- In this topic you have:
  - A demonstration **video**.
  - A **"Graphical Programming MBOT"** PDF.
  - An introduction to **mBlock**, for **programming mBot** PDF.

➢ Topic 4 - **Resources before to Start**:



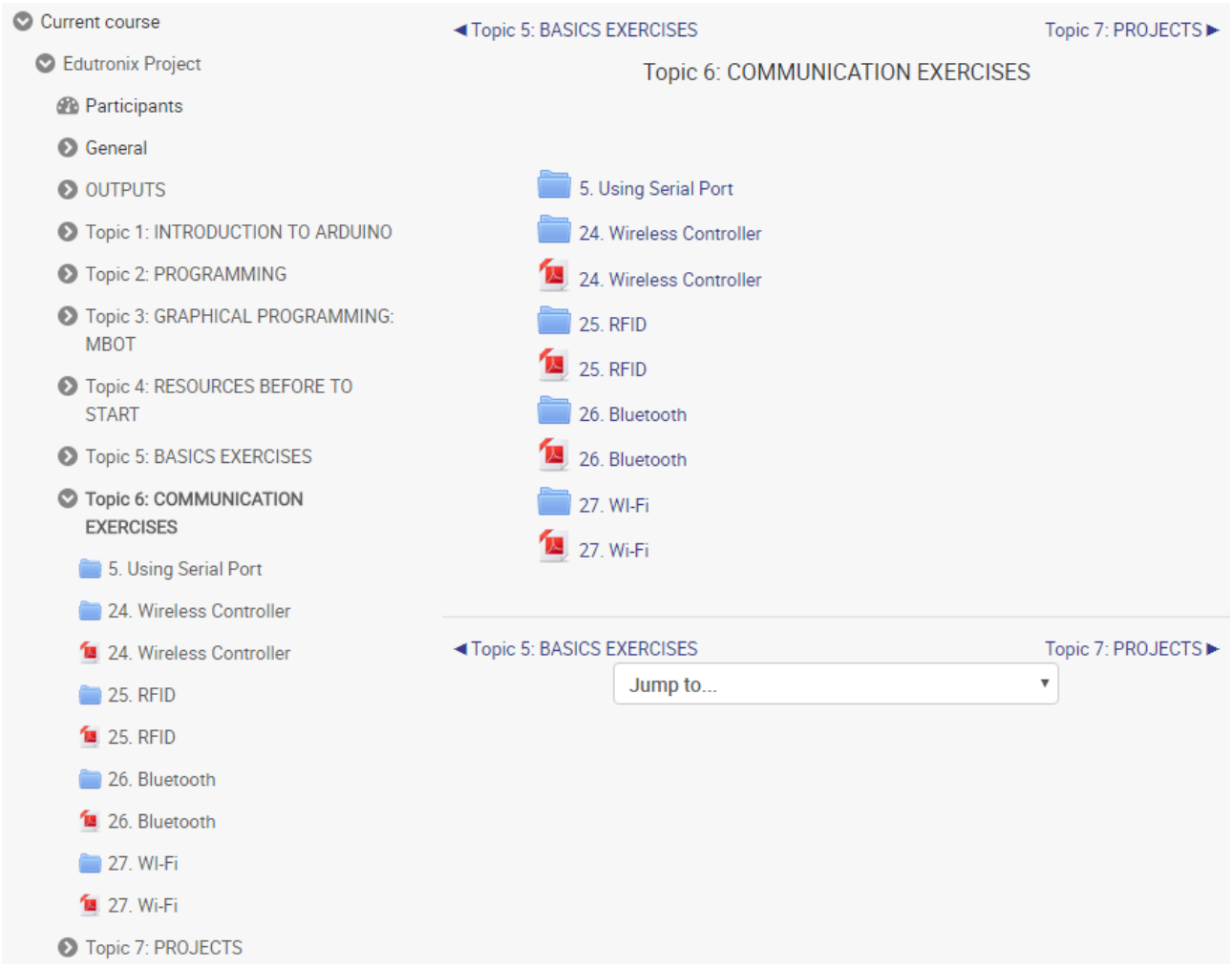
- In this topic you have:
  - A "**Components List**" PDF.
  - A **"Libraries List"** PDF.
  - Some **Libraries** for download.
  - Some **links** of websites where **buy toolbox elements**.
  - **STL Archives**.



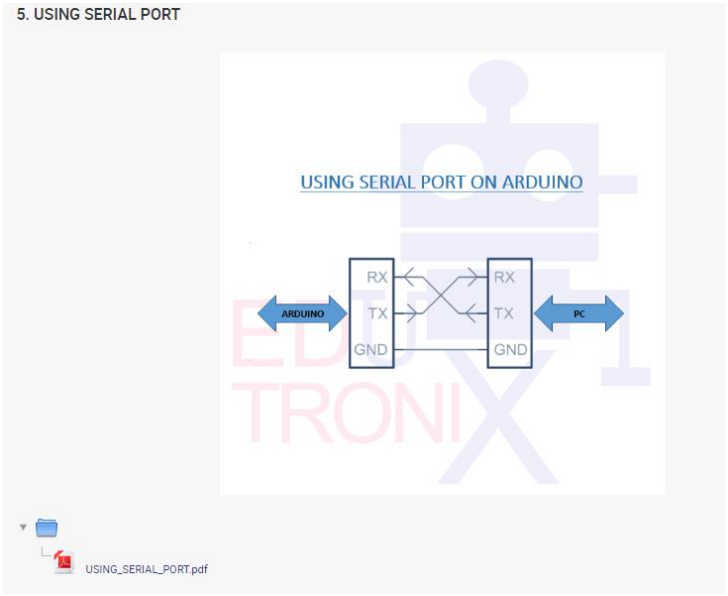
➢ Topic 5 - **Basics Exercises**:

- In this topic you have:
  - Different **examples** of **connect sensors** and **actuators** to **Arduino**.

➢ Topic 6 - **Communication Exercises**:



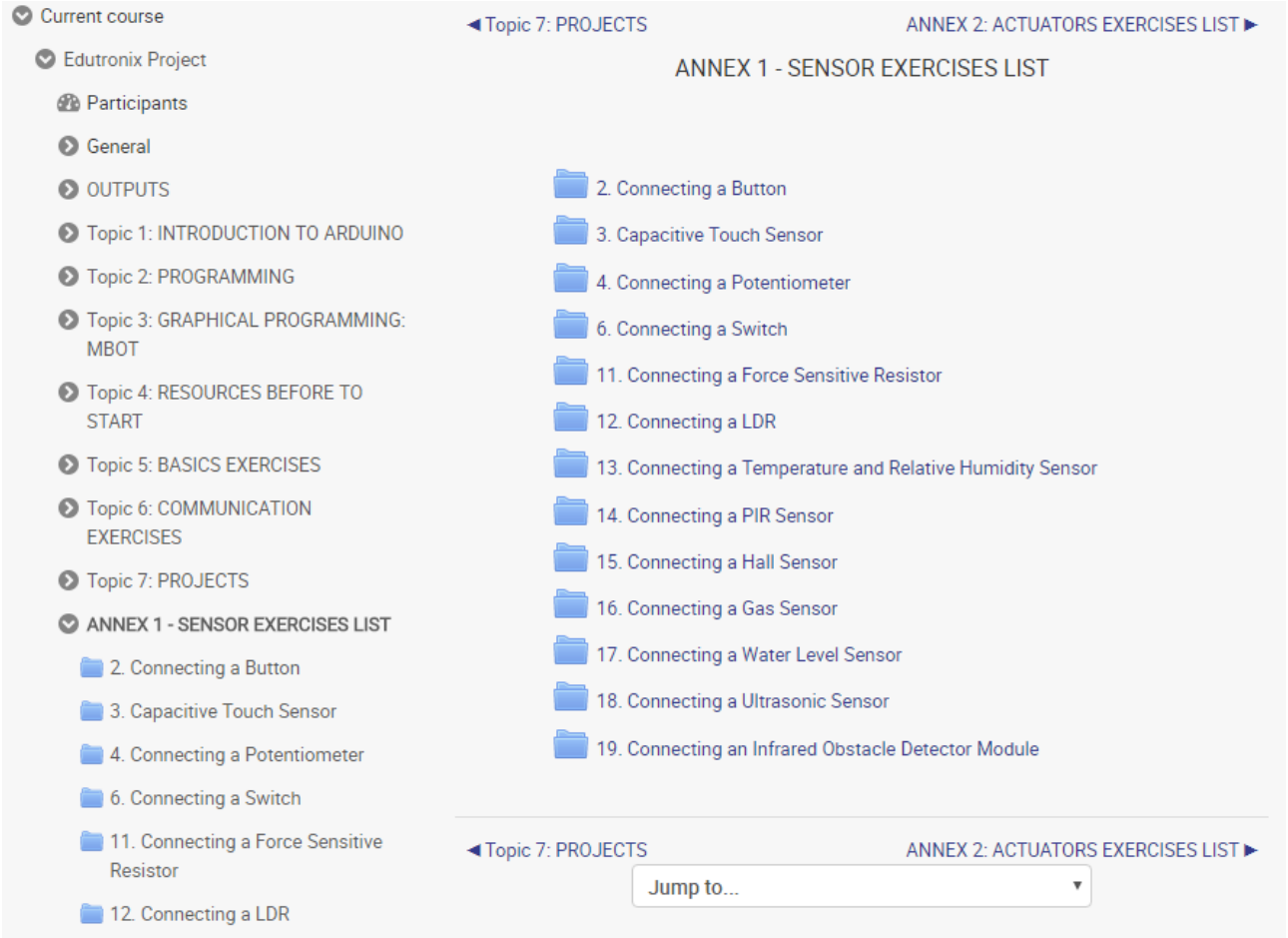
- In this topic you have:
  - Different examples of **communication** with Arduino.



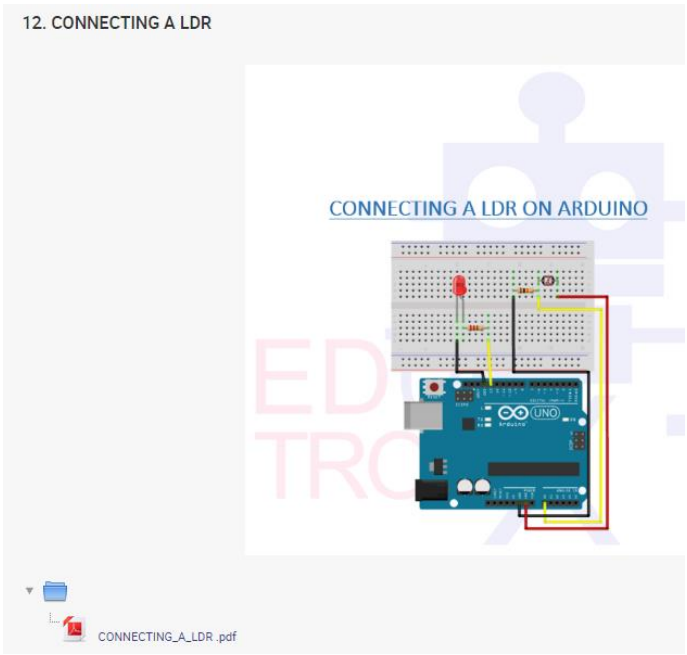
➢ Topic 7 - **Projects**:

- In this topic you have:
  - Some **projects** examples in **Arduino**.

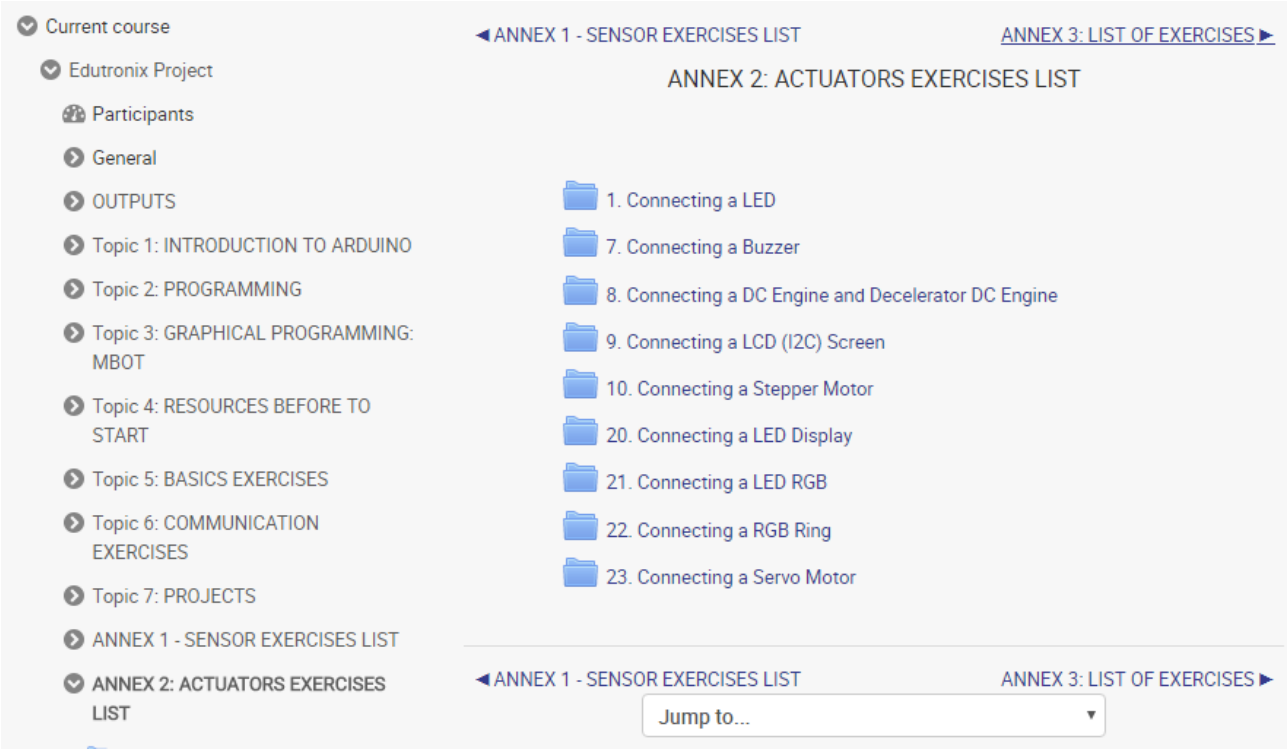
➢ Annex 1 - **Sensors Exercises List**:



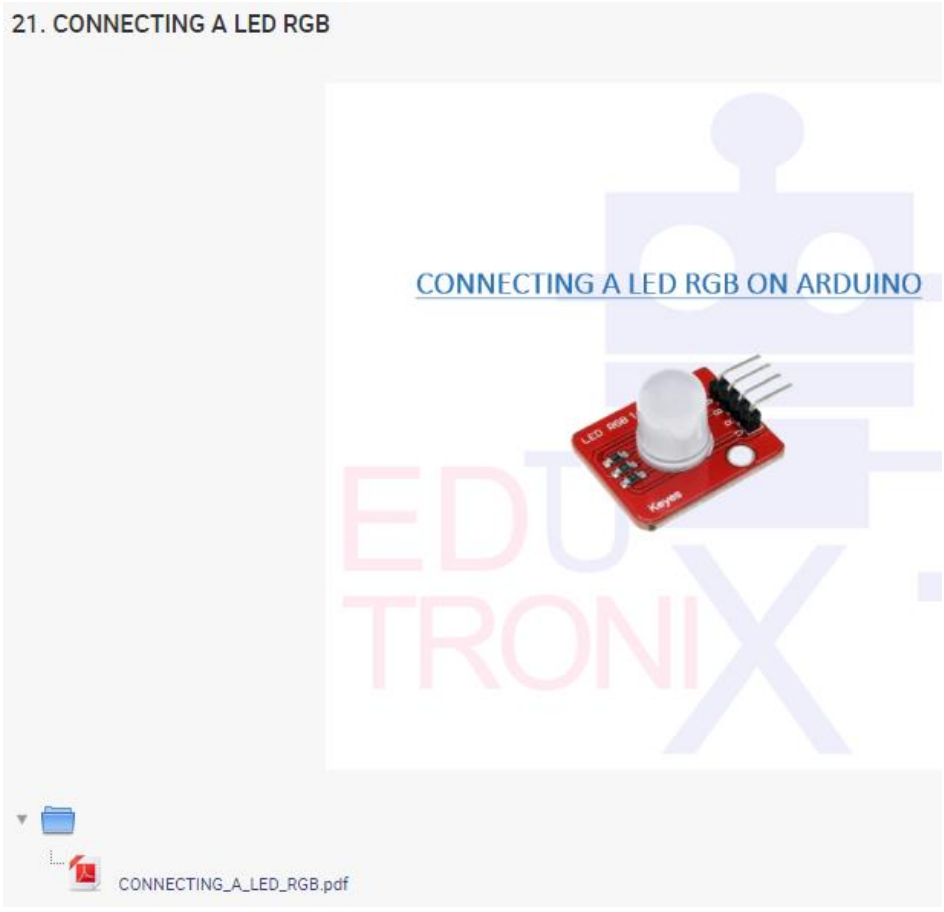
- In this topic you have:
  - **Sensors Exercises**.



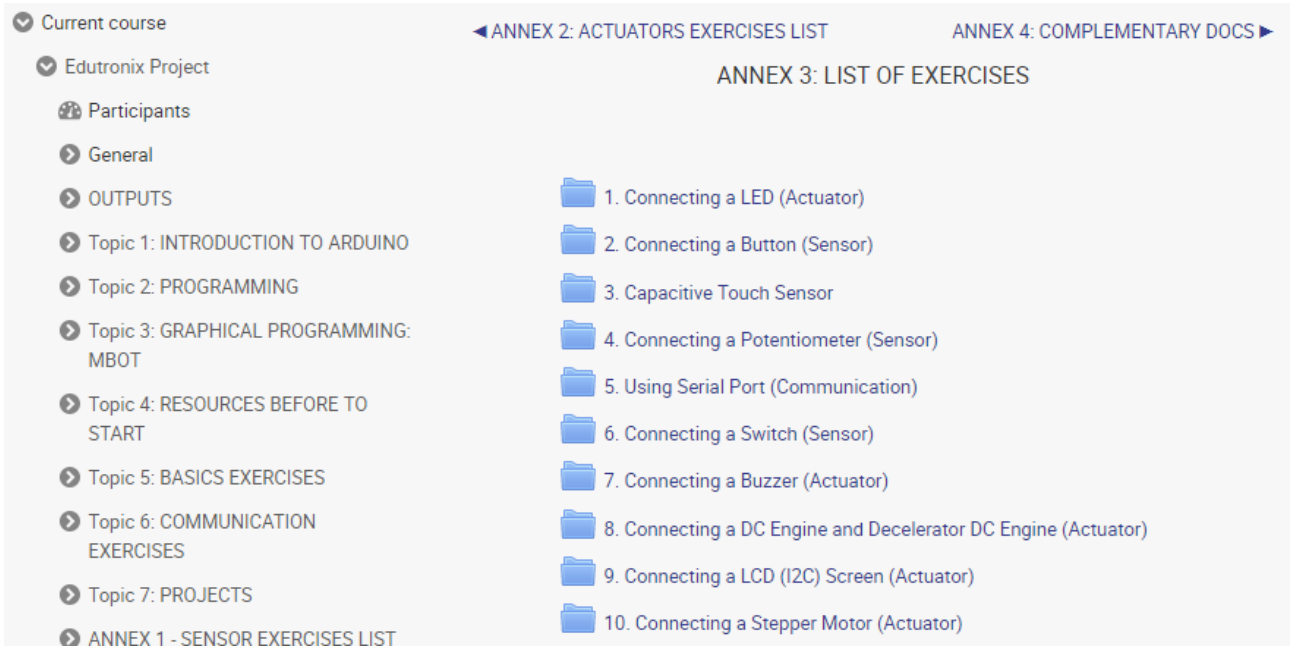
➢ Annex 2 - **Actuators Exercises List**:

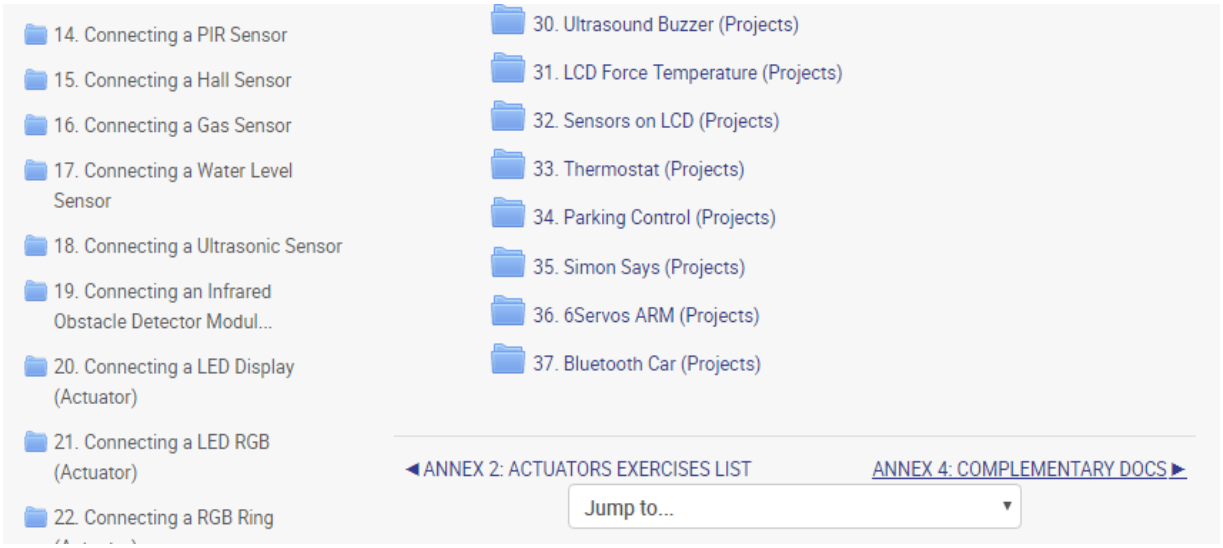


- In this topic you have:
  - **Actuators Exercises**.



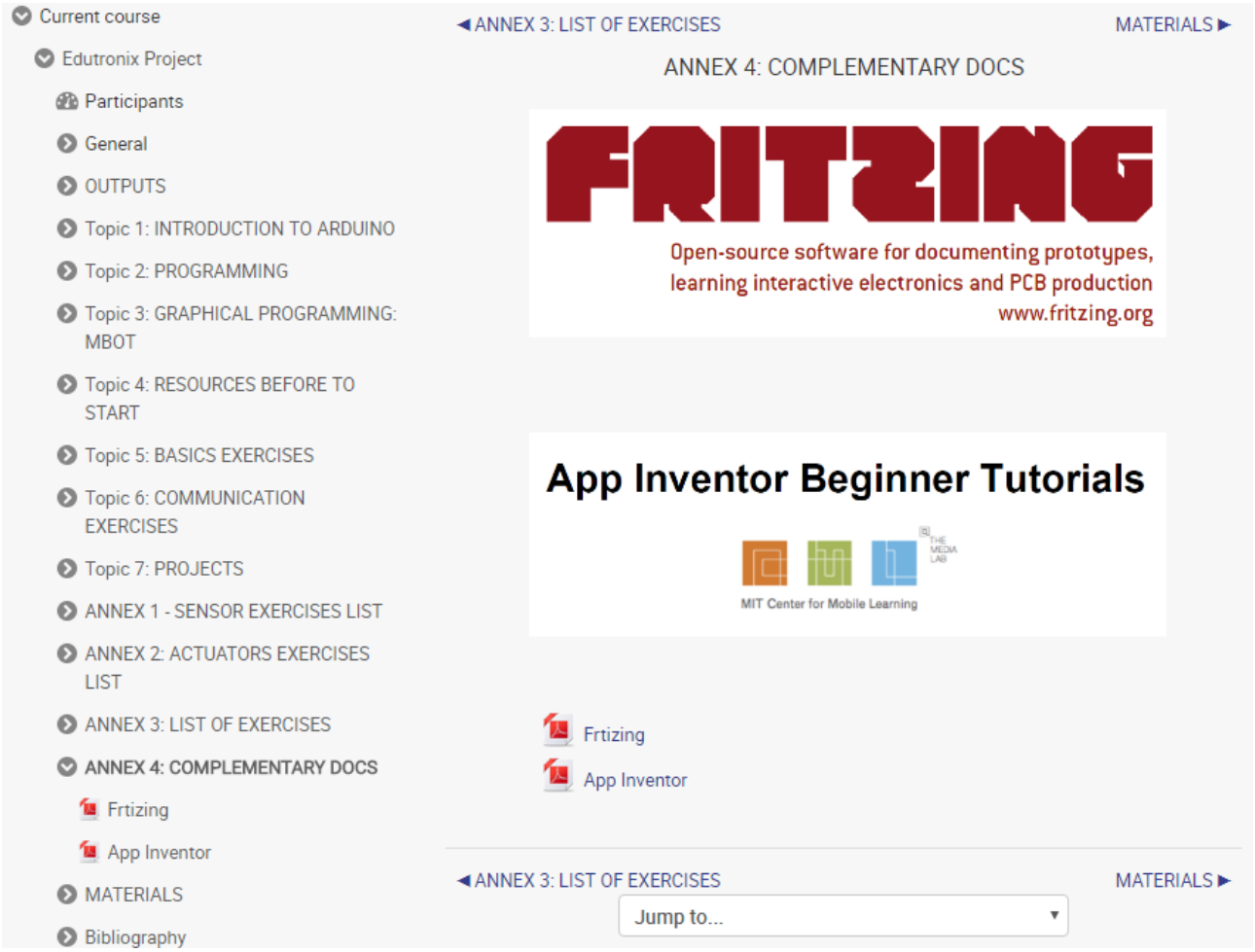
➢ Annex 3 - **List of Exercises**:





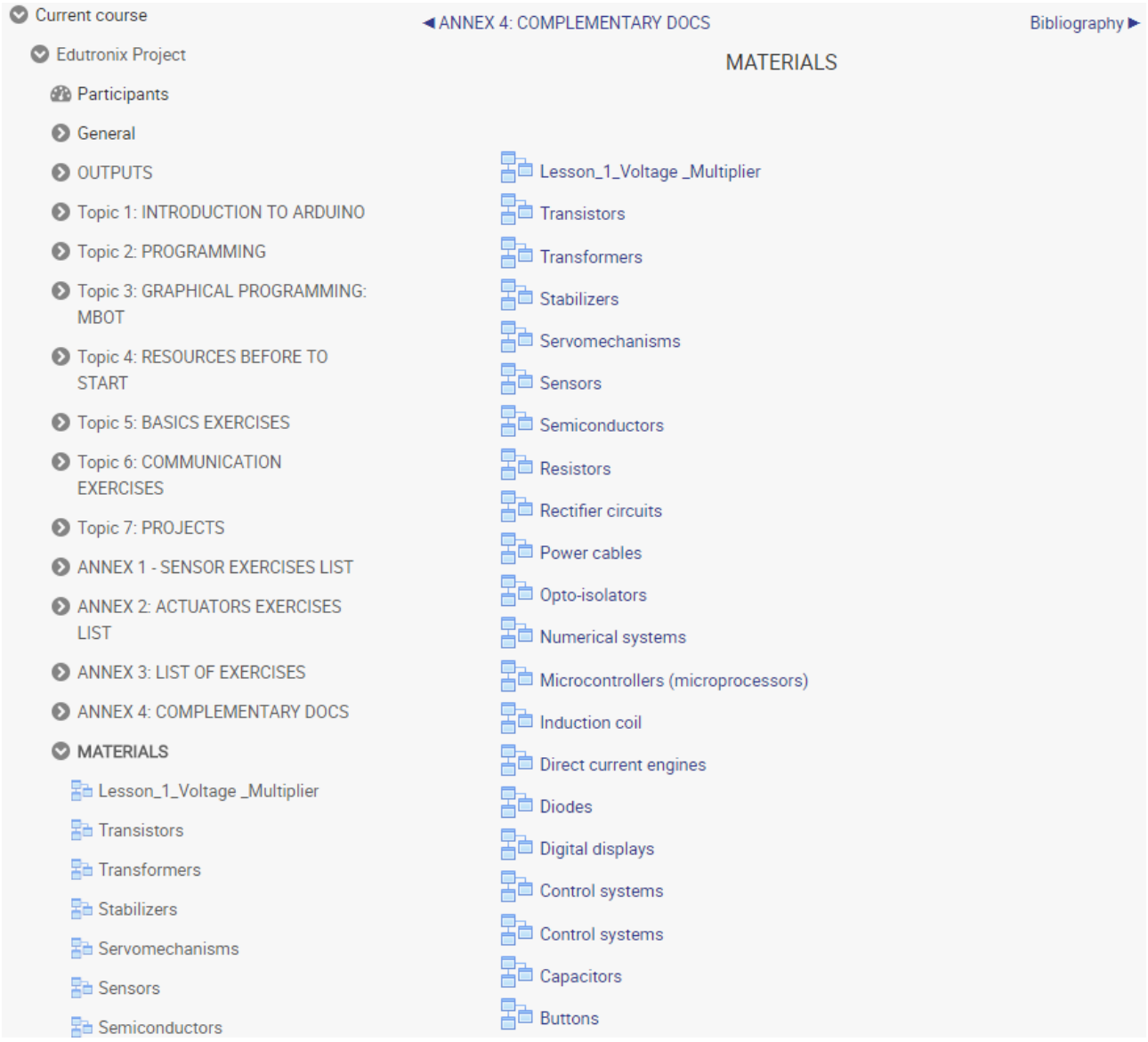
- In this topic you have:
  - **All** the exercises.

➢ Annex 4 - **Complementary Docs**:



- In this topic you have:
  - "**Fritzing**" PDF, an open source software for documenting prototypes and learning electronics.
  - "**APP Inventor**" PDF, a software for develop applications that will connect with Arduino.

- Materials:


Current course
Edutronix Project
Participants
General
OUTPUTS
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Topic 2: PROGRAMMING
Topic 3: GRAPHICAL PROGRAMMING: MBOT
Topic 4: RESOURCES BEFORE TO START
Topic 5: BASICS EXERCISES
Topic 6: COMMUNICATION EXERCISES
Topic 7: PROJECTS
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Transformers
Stabilizers
Servomechanisms
Sensors
Semiconductors
◄ ANNEX 4: COMPLEMENTARY DOCS
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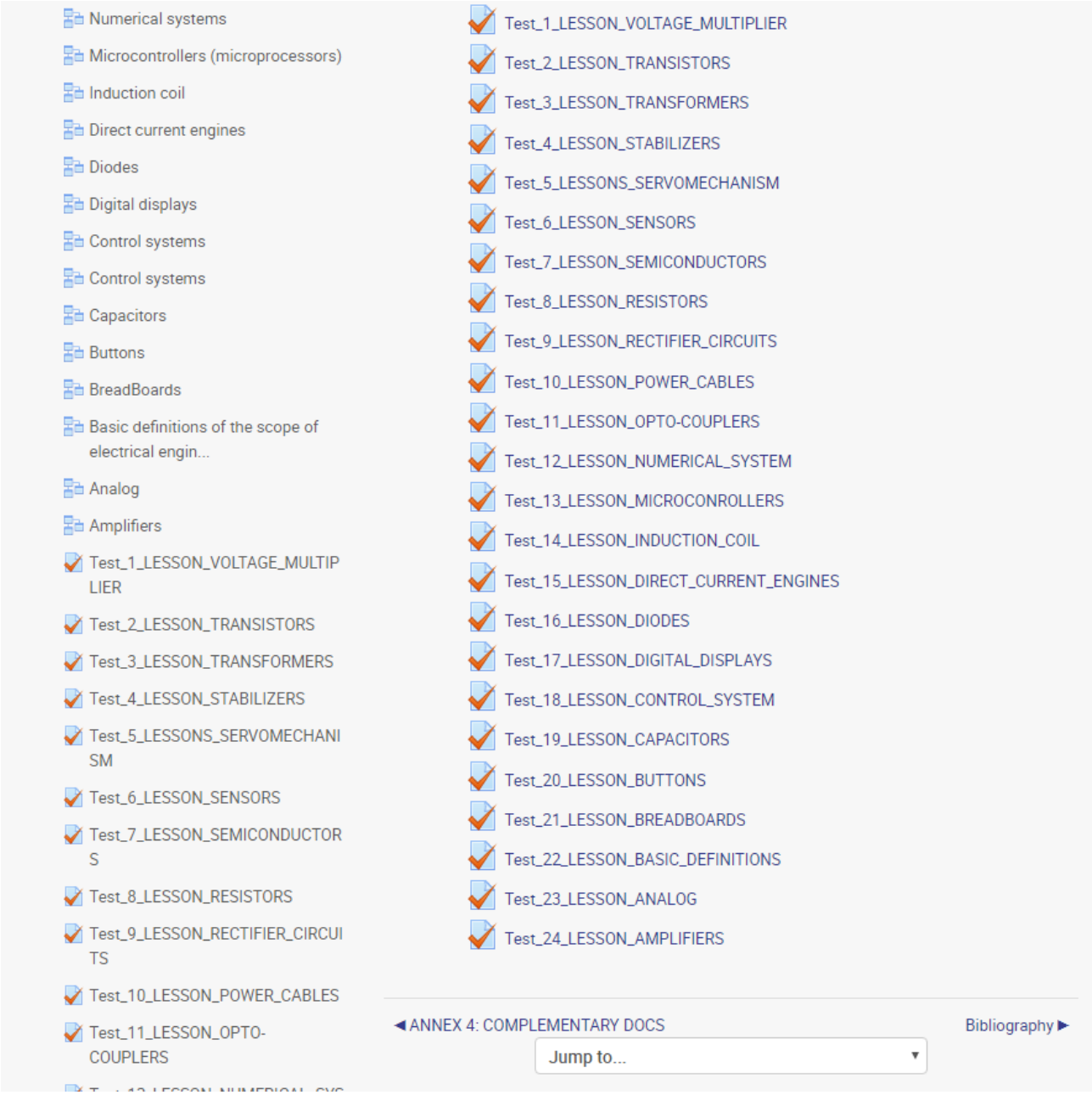
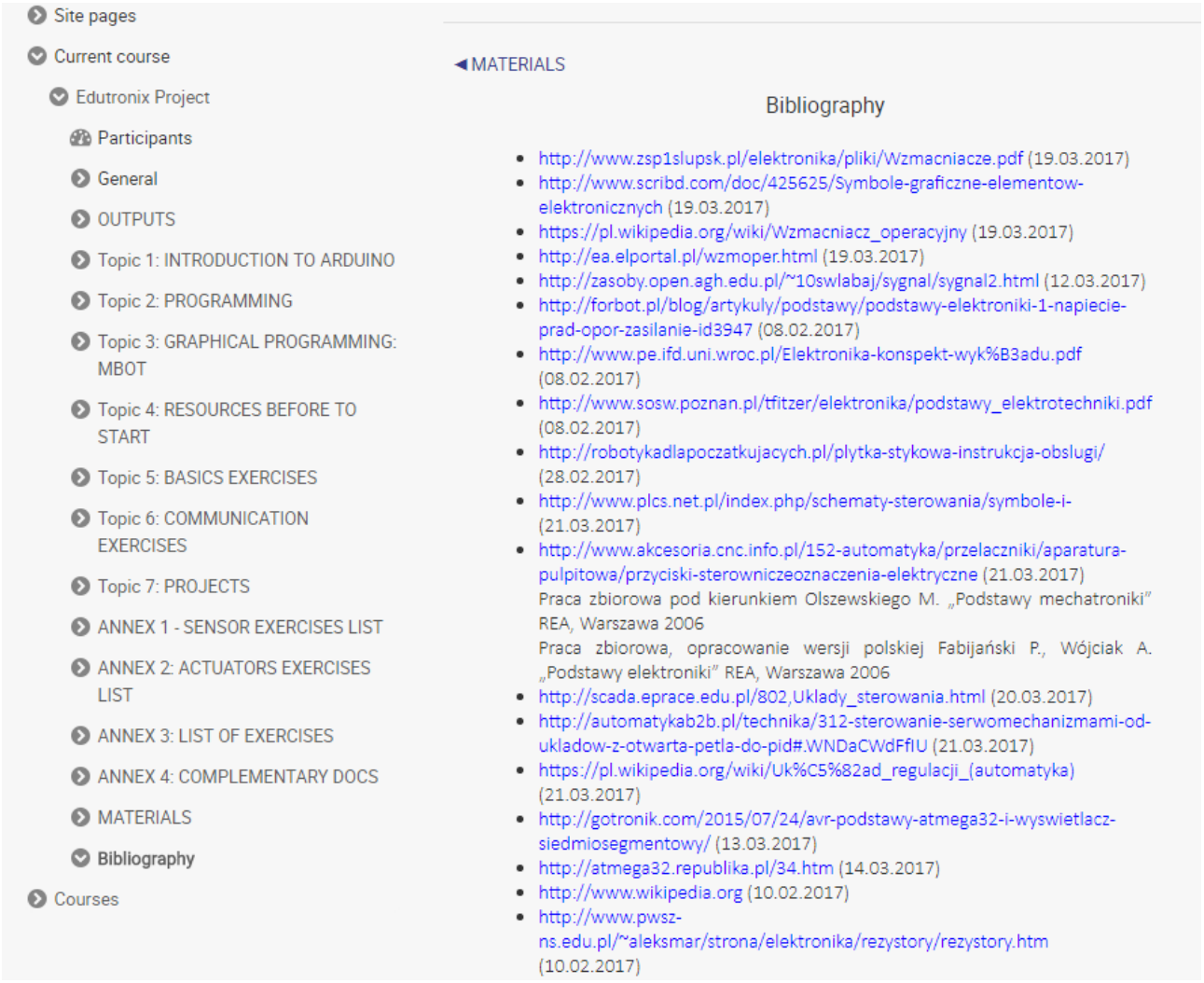
Sensors
Semiconductors
Resistors
Rectifier circuits
Power cables
Opto-isolators
Numerical systems
Microcontrollers (microprocessors)
Induction coil
Direct current engines
Diodes
Digital displays
Control systems
Control systems
Capacitors
Buttons



- In this topic you have:
  - All the **materials** for advanced in the course.
  - All the **tests** for verify that you are learning.

- Bibliography:



- In this topic you have:
  - All the **bibliography** of which the course has been composed.