

Educating Vaccination Competence

Web-based Course

Syllabus



	Educating Vaccination Competence (EDUVAC)
Type of course	Undergraduate
ECTS	3
Duration	Depends on each Higher Education Institute
Method	Online, self-study
Objectives	The web-based course's objective is to enhance the quality and relevance of the learning about vaccinations and strengthen the knowledge, skills and attitudes of students in vaccinating different population groups and counselling people of different age groups and their families.
Previous student requirements	This course is suitable for undergraduate health sciences students who have basic knowledge of physiology, anatomy, and health care clinical skills. Students should have a B2 level in English language.

Background

Vaccines are one of public health's most cost-effective interventions (World Health Organization [WHO], 2018a). Immunisation should be recognized as a core component of the human right to health and an individual, community and governmental responsibility (WHO, 2013).

In any case, health professionals who implement vaccinations should be authorized to administer vaccines, have distinctive personal qualities, theoretical knowledge and practical skills (Nikula et al., 2009). In addition, there are several studies that support the need to educate future health professionals on vaccinations. For example, Bralic & Pivalica (2019) have concluded that evidence-based education, especially the experience and attitudes of all health professionals, as potential educators of the population, is the foundation for successful vaccination, and thus, it is



essential to strengthen the quality in vaccination education in order to overcome the vaccine hesitancy issue. Health professionals are important in communicating information about vaccination and are trusted by the public (Public Health England, 2018). Moreover, improving vaccine confidence among healthcare workers is crucial as they have been shown to have the potential to influence patient vaccination uptake (European Centre for Disease prevention and Control [ECDC], 2015a), as well as health professionals' high level of knowledge and a positive attitude to immunisation have a positive impact in high vaccination (Simone et al., 2012).

Finally, it has been supported that vaccinations competency among health professionals should be ensured (Sakellari, 2019) and therefore, curricula and training programmes should aim that health professionals will (a) readily understand and support vaccination with minimal introduction and will not need to subsequently revisit the topic in their continual professional development, and (b) have the skills to improve attitudes to vaccination among the general population effectively (Yaqub et al., 2014). Hence, the current web-based course was developed within the Erasmus+ funded project "EDUVAC". The web-based course is in English language using the Moodle platform. It is developed by a collaboration among University of West Attica (Greece), Metropolia University of Applied Sciences (Finland), Trnava University (Slovakia), University of Vic (Spain) and University of Modena and Reggio Emilia (Italy).

EDUVAC web-based course sections rationale

The EDUVAC web-based course is developed in sections based on the review of the literature and reports by health authorities, such as the WHO, the ECDC, the Centers for Disease Control and Prevention [CDC] and national (public) health authorities among the partner countries. The review of the literature was conducted using different databases (e.g. PubMed, ScienceDirect, Scopus, CINAHL) and the internet (see literature review list at the end of the syllabus). Furthermore, examples and guidelines about how a syllabus should be, were reviewed.



Thus, the project team after reviewing the literature and discussing thoroughly, concluded to include the following six evidence-based sections and a glossary:

1. *Vaccination basics*
2. *Vaccination procedure*
3. *Counseling people*
4. *Vaccinating refugees, migrants, and asylum seekers*
5. *Vaccinating travellers and people on the move*
6. *People who hesitate to take vaccines and anti-vaccination groups*

7. Glossary

As mentioned above, all these sections which form the content of the web-based course were decided based on relevant literature. The sections “Vaccination basics” has been supported by the WHO webpages dedicated to immunization and the Global Vaccine plan by the WHO (2018b). The section “Vaccination procedure” was decided, taking as an example, among other sources, the different material produced by the Finnish Institute of National Health and Welfare (2020a) and the WHO (2015a) recommendations on reducing pain at the time of vaccination, and the “Pink Book” by CDC (2015). The section “Counseling people” was decided to be included based on the WHO (2017b).

An important part of the course is “Vaccinating refugees, migrants and asylum seekers” which is a population group with special needs and it is supported by the literature and EU policies (e.g. WHO-UNHCR-UNICEF, 2015b, Rechel et al., 2011). Other population group that has extra vaccination needs are travelers and people on the move with the CDC, NHS (UK) and the WHO dedicating specific part its webpages for this purpose in addition to the rich publications (Allen et



al., 2016; Avni et al., 2018; Brent et al., 2018; Dolan et al., 2014; Hagmann et al., 2017; Hamer et al., 2018; Kamata et al., 2017a, 2017b; Lee et al., 2017; Rossi et al., 2012; Tan et al., 2019; Zafer et al. 2018).

Furthermore, the vaccine hesitancy and anti-vaccination groups section because this is a new movement across the world and there is rich literature on this (e.g. Berry et al., 2017; Chung et al., 2017; Greenberg et al, 2017; Hussain et al., 2018; Opel et al, 2013), and future health professionals need to be competent in order to address this challenge.

Finally, a glossary was recognised as a source to be included to help students understand some of the terms used in this web-based course (CDC, 2020b; International Organization for Migration [IOM], 2011; Rokotustiето, 2020).

EDUVAC web-based course objectives

The web-based course's objective is to enhance the quality and relevance of the learning about vaccinations and strengthen the knowledge, skills, and attitudes of students in vaccinating different population groups and counselling clients of different age groups and their families.

Learning outcomes

At the completion of the vaccination education, students will:

- have knowledge on immunity system and vaccination
- have knowledge on evidence-based practice in vaccinations
- have knowledge on the different vaccination needs among special population groups
- be able to screen and identify migrant people on vaccination needs and exposures to contagious diseases.
- be able to provide information, counselling, and support about vaccines to migrants



- be able to access vaccination needs and vaccination coverage of different population groups
- be aware of different vaccination schedules in different countries and be able to find the different schedules for different populations target groups
- be able to administrate vaccines in theory
- will develop their critical thinking and will raise their awareness and knowledge on different cultural backgrounds and social values
- be aware of the ethical issues raised in the vaccination healthcare provision
- will improve their communication skills, and be familiar with different learning/teaching means
- will improve their English skills
- be able communicate and study in English in international student groups

At the description of each section, below, the learning outcomes of each section are described in more details.

Learning resources and activities

EDUVAC web-based course has produced different learning material in order to promote learning and motivate students in their learning process. The resources and activities included in EDUVAC web-based course include:

- *PowerPoint presentations* that allow students to study a topic through the PowerPoint presentation. There are for example presentations where they provide information in a text or other more animated that illustrate something that needs to be performed by students.
- *Documents* that provide knowledge and may also refer to other sources by for example links to online scientific sources/websites for studying or further reading if the students would like to deepen more their knowledge on a subject.
- *Videos* include illustrative information and they can be an effective study method for

- students who can identify themselves as health care providers/vaccinators in those
- *Self-tests* with which students can test their knowledge after they study a topic. The students get immediate feedback and they can repeat the test several times.
 - *Assignments* are interactive or reflective to help the students learn more and go deeper in a topic. Students should first study the topic, read the instructions, and then do the assignment.
 - *Portfolio Assignments* are those that teachers need to evaluate. Students firstly read the instructions and then they work on the assignment. There are 5 assignments for the portfolio. Students should complete all assignments required for the portfolio in order to be evaluated. Teachers should give a written feedback on the portfolio assignments through the e-learning platform (Moodle). They can allow students to have a second try on portfolio assignments if they haven't succeeded.

EDUVAC web - based course sections

1. *Vaccination Basics*

Description of the section:

- Why is vaccination important
 - Why vaccination is important for global health
 - Effectiveness of vaccination programme
- What is immunisation
 - Immunisation-what it is
- Who is a competent vaccinator?
 - Who is vaccinator?
 - Article: vaccination competence
 - Article: Factors strengthening and weakening vaccination competence

- Vaccination programs in different countries
- Vaccination coverage in different countries
 - Self-tests and assignments
 - Self-test: Immunization 1
 - Self-test: Immunization 2
 - Self-test: Immunity
 - Assignment: Vaccinator
 - Assignment: Vaccination coverage
 - Further reading
 - Further reading about Vaccinations basics

Learning outcomes

At the completion of the section, students will:

- be aware of importance of vaccination
- be aware of qualities of competent vaccinator
- be aware of the National Vaccination Programs (NIPs) in different countries
- have knowledge on immunity system and vaccination

Learning resources and activities:

- power point presentation (in pdf format)
- self-tests
- pdf documents
- assignment
(portfolio assignment)*

2. *Vaccination procedure*

Description of the section:

- Ethics
- Vaccination step by step
- How to administer vaccines in practice
 - Contraindications for vaccinations
 - How to hold a child during vaccination
 - Vaccination sites and administering vaccines
 - Subcutaneous (SC) vaccination technique: steps and video
 - Intramuscular (IM) vaccination technique: steps and video
 - Make the vaccination as comfortable as possible
 - Adverse events
 - Storage and the cold chain of vaccination
- Self-tests and assignments
 - Self-test: Storage and the cold chain of vaccination
 - Assignment: Vaccination procedure
 - Self-test: Vaccination procedure
- Further reading
 - Further reading about Vaccination procedure

Learning outcomes

At the completion of the section, students will:

- have knowledge on vaccines and immunization, development of the vaccines and the way the immune system and vaccines work, vaccine preventable diseases and population health
- have knowledge on evidence-based practice in vaccinations
- have knowledge on different vaccination techniques

- be able to administer vaccines in theory
- be aware of ethical issues
- be aware of the storage and cold chain of vaccines
- have knowledge and be able to identify and manage adverse effects of vaccinations
- be able to record, monitor and survey of vaccination

Learning resources and activities:

- power point presentation (in pdf format)
- technique videos and images self-tests
- pdf documents
- assignment

3. **Counselling people**

Description of the section:

- What is good counselling
 - What constitutes counselling?
 - Elements of good counselling
- Ethics and counselling
- Counselling different population groups
- Immunocompromised people
 - Counselling parents about their child's vaccinations
 - Counselling adolescents
 - Counselling adults
 - Video: Example of vaccination counselling situation
- Self-test
 - Self-test about Counselling
- Further reading

- Further reading about Counselling people

Learning outcomes

At the completion of the section, students will know:

- how to address clients' concerns about vaccination
- how to receive and give verbal and nonverbal client references
- how to improve and streamline decision making
- how to be aware of ethical issues

Learning resources and activities:

- self-test
- power point presentation (in pdf format)
- video
- pdf documents

4. Vaccinating refugees, migrants, and asylum seekers

Description of the section:

- Introduction
- Ethical issues to consider
- Epidemiological data
- Screen for vaccination and controlling diseases
 - Self-tests and assignments
 - Self-test
 - Optional Activity
 - Further reading
- Further reading about Refugees, migrants and asylum seeker

Learning outcomes

At the completion of the section, students will:

- be able to screen and identify migrant people on vaccination needs and exposures to contagious diseases
- be able to provide information, counselling, and support about vaccines to migrants
- be able to refer to other experts and/or health specialists when necessary
- be able to care people, respecting dignity, freedom, equality, health perception, without any distinction
- be aware of ethical issues
- be able to follow the guidelines and the evidence based public health recommendation
- be aware of health as a fundamental right

Learning resources and activities:

- power point presentation (in pdf format)
- narrated power point video
- self-test
(portfolio assignment)*

5. Vaccination travellers and people on the move

Description of the section:

- Pretravel consultation
- Self-evaluation questionnaire
- Traveller's Health history
- Immunisation condition before departure
- Vaccination for travellers
 - Vaccination for travellers
 - International Certificate of Vaccination or Prophylaxis

- Other travellers' groups
- Self-tests and assignments
 - Self-test: Travellers vaccination
 - Assignment: Travellers' vaccinations
- Further reading
 - Further reading about Vaccinating travellers and people on the move

Learning outcomes

At the completion of the section, students will:

- be able to access vaccination needs and vaccination coverage of travellers and people on the move
- be aware of pre-travel consultation
- be aware of ethical issues
- be familiar with the use of sources needed for proper consultation (e.g. CDC, ECDC, WHO)
- have knowledge and be able on history taking and vaccination history in order to provide proper vaccination consultation
- have knowledge on vaccination of travellers with special medical problems or special conditions
- have knowledge on ethical and cultural issues regarding vaccinating travelers and people on the move

Learning resources and activities:

- power point presentation
- power point presentation (in pdf format)
- narrated power point presentations
- video
- assignment
- self-test

(portfolio assignment)*

6. *Clients who hesitate to take vaccines and anti-vaccination groups*

Description of the section:

- A description of the phenomenon
 - Vaccine hesitancy and antivaccination phenomenon
 - Antivaccination movement
 - Vaccine hesitancy among healthcare workers
- How communication can influence vaccine uptake and address vaccine hesitancy
 - Communication strategies
 - Face to face interventions to address hesitancy and motivational interview
 - How to talk to anti-vaxxers
- Self-tests
 - Self-test
 - Self-test
- Further reading
 - Further reading about People who hesitate to take vaccines and anti-vaccination groups

Learning outcomes

At the completion of the section, students will:

- have knowledge about the vaccine hesitancy and anti-vaccination movement phenomenon
- have knowledge on the different vaccination needs among special population groups
- be aware of ethical issues
- be able to communicate and provide consultation to different population groups by applying all the theoretical background knowledge obtained

Learning resources and activities:

- PowerPoint presentation
- Interactive video
- self-test
- pdf documents
(portfolio assignment)*

**The portfolio assignments are not included in Moodle platform however, they are available for teachers upon request (Please contact us by email: eduvac@uniwa.gr).*

7. Glossary

In this section, the students can find several useful terms explained and clarified in order to help their learning.

Students' evaluation and grading system

Students will be evaluated through five assignments included in their portfolio. All assignments should be successfully completed in order for the students to pass the course. Grading system is based on pass or fail or according to local grades (depending on the University system). This web-based course leads to 3 ECTS.

Relevant literature

Scientific articles, reports, guidelines, and other scientific sources reviewed to help the EDUVAC project team to develop this web-based course

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- Vaccine Reports
- European Journal of Immunology
- Human Vaccines and Immunotherapeutic
- Tropical Diseases, Travel Medicine and Vaccines
- Global Vaccines and Vaccination Journal
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- International Journal of Vaccines and Immunization
- International Journal of Vaccines and Research
- International Journal of Vaccines and Vaccination
- Journal of Immunology Research



- Journal of Vaccines and Clinical Trials
- Journal of Vaccines and Immunology
- Journal of Vaccines, Immunology and Immunopathology
- Journal of Vaccines and Vaccinations
- SM Vaccines and Vaccination Journal
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