UNIC Virtual Campus
Basic Information and Implementation Overview

UNIC VC Basics

What we agreed upon

- What virtual campus is not
- What virtual campus is
- Basic set of rules

What UNIC Virtual Campus is not

- It is not a UNIC web site, it is a set of applications that blend in the UNIC web site
- It does not serve as a place to put news etc.
- It is not a comprehensive database nor it has any intention to be

What is UNIC Virtual Campus?

- An information system (database, applications, APIs, procedures, organization, support ...)
- A central hub for data exchange between alliance members
- A support for common UNIC processes
- A central information exchange component of the consortium

Basic set of rules

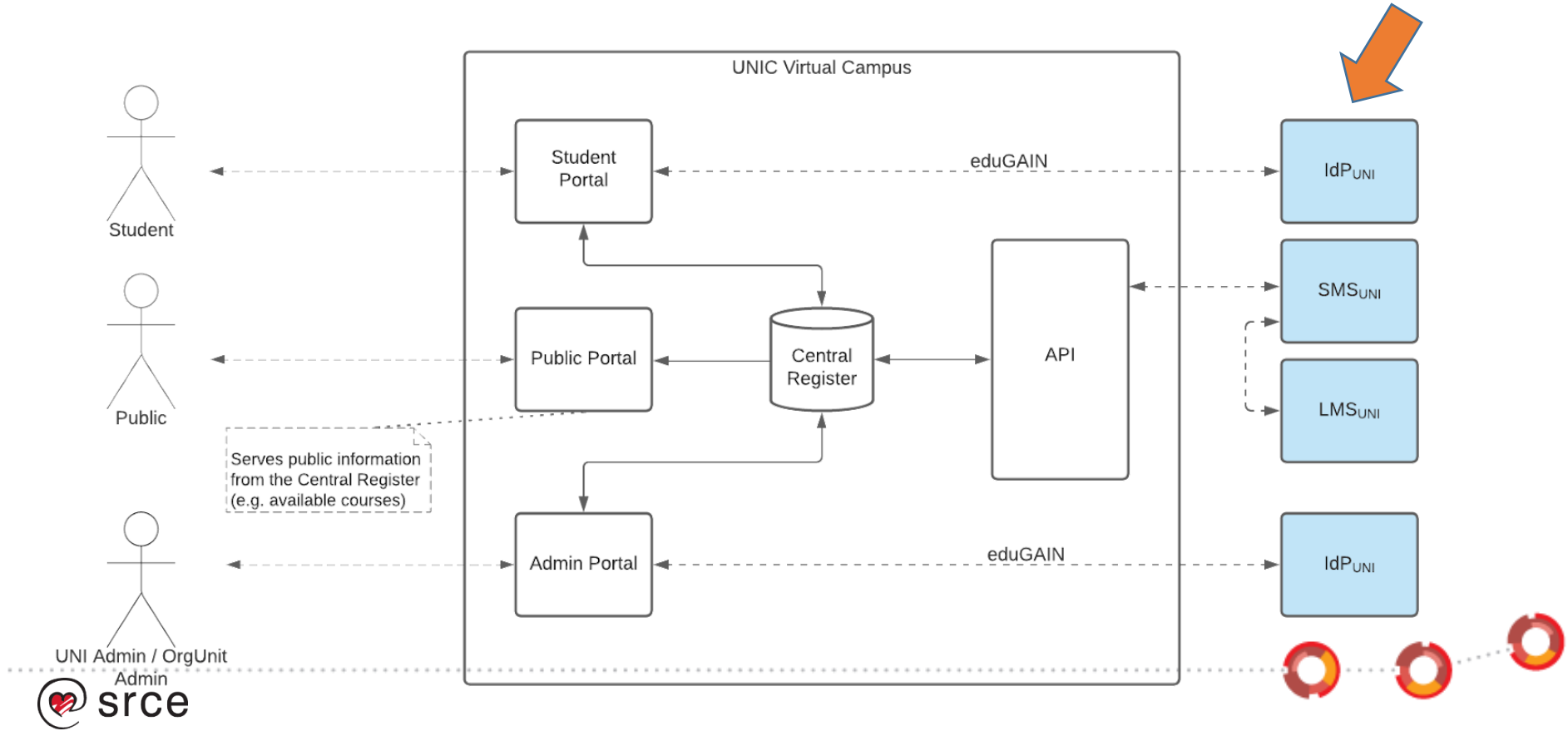
- All participating universities has to have an electronical identity provider (IdP)
  - In Croatia: AAI@EduHr
- IdP has to participate in eduGAIN
- All students have to have ESI (European Student Identifier)
  - In Croatia JMBAG serves as ESI
- VC will use ECTS grading scale (A-F) – everyone has to know how to convert their grades to ECTS grades

Our vision: Main functionalities of the UNIC VC

- Interoperable / acts as a part of UNIC website
- Provides public access to some information as well protected access to authorized users
- Supports:
  - UNIC European Student Card
  - Course catalogue
  - Joint-8 programmes catalogue
  - Virtual mobility – course selection, enrolment, grade exchange
  - Open Science Campus (UNIC4ER)
  - ...
- Holds minimal set of data in order to support the processes
- Heavily relies on data exchange
  - Most data in the VC should origin in other systems
  - UNIC VC connects the dots, builds the top layer on that available data
  - A small set of data and actions is needed to be done inside the VC apps

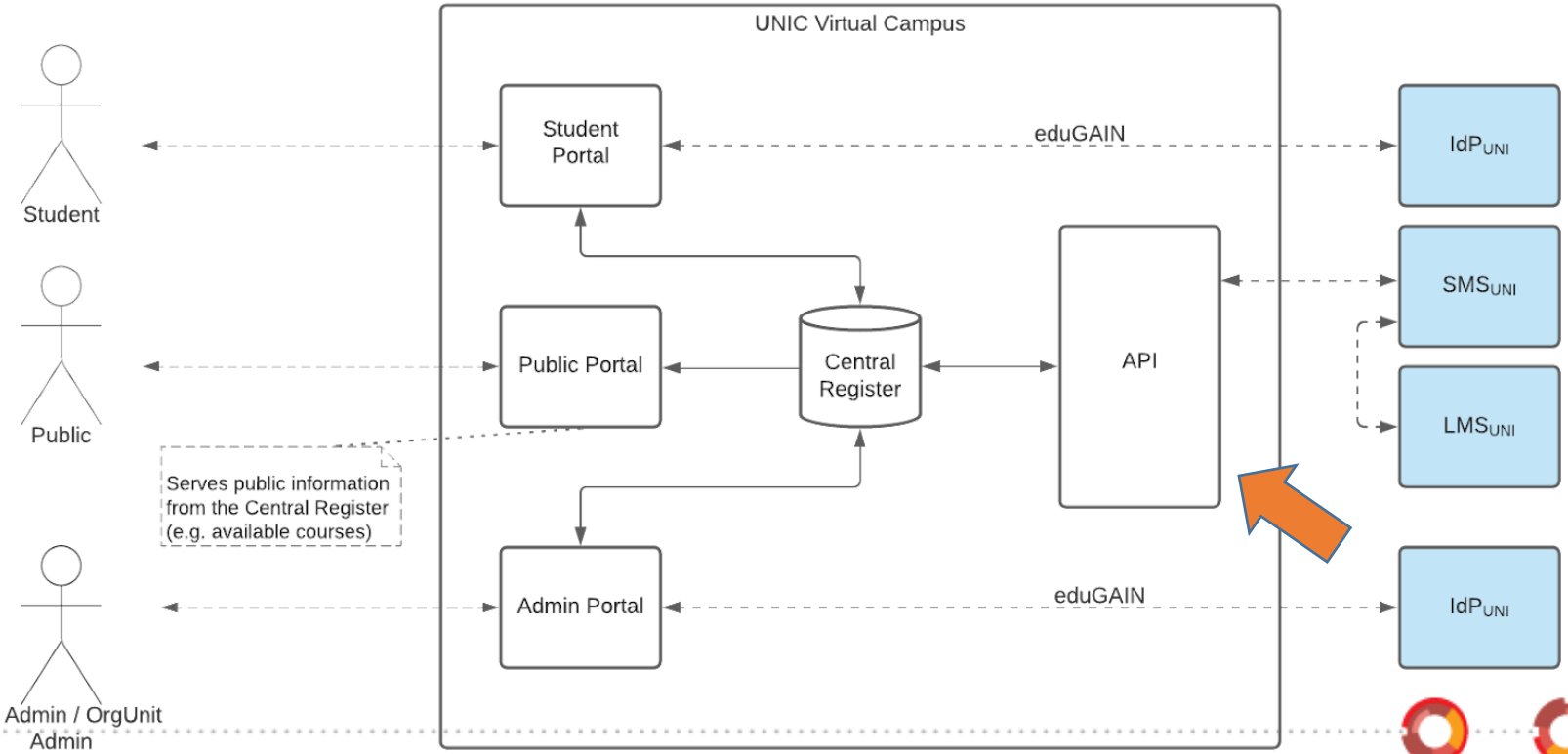
UNIC VC interactions

- All users that log in to the system use their own electronical identity (given by the home university)



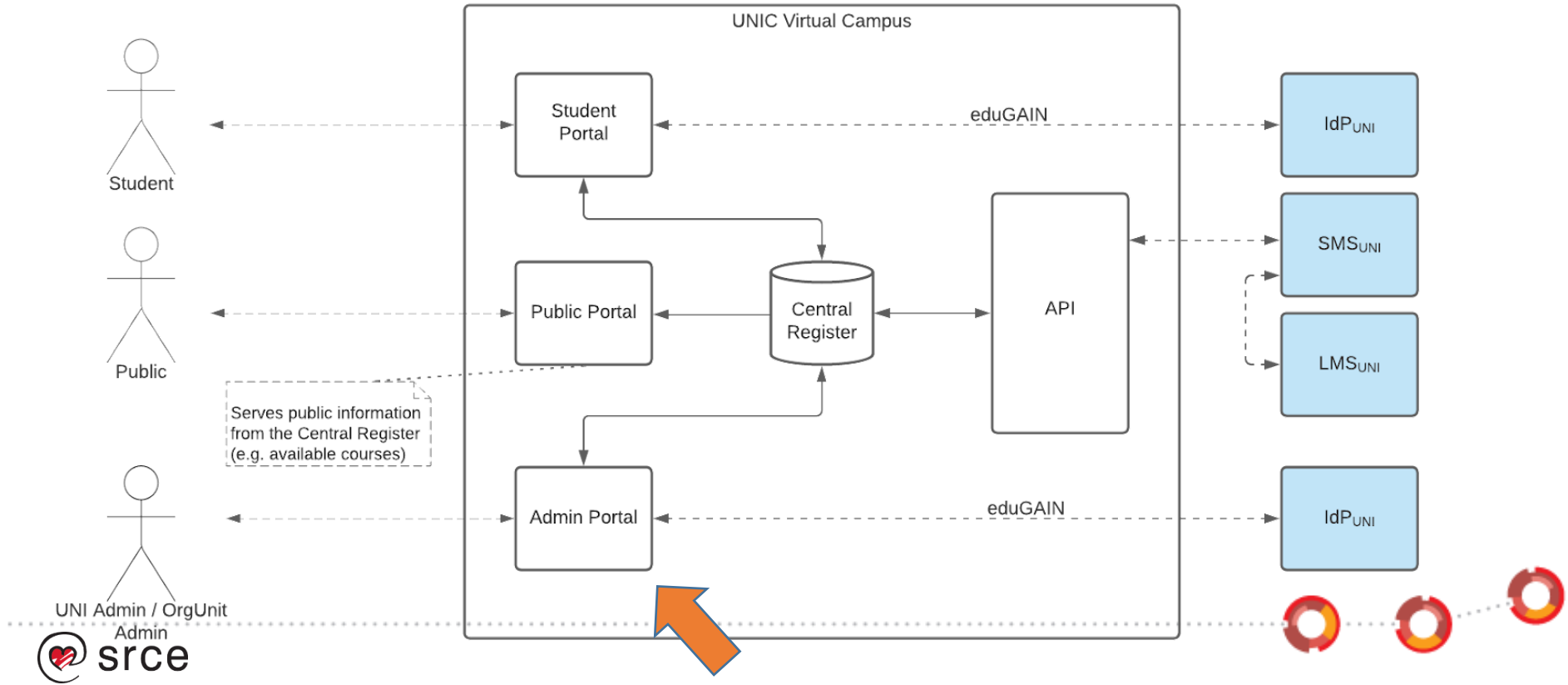
UNIC VC interactions

- Provides an API so local student management systems (SMSs) can interact with it and push/pull the data



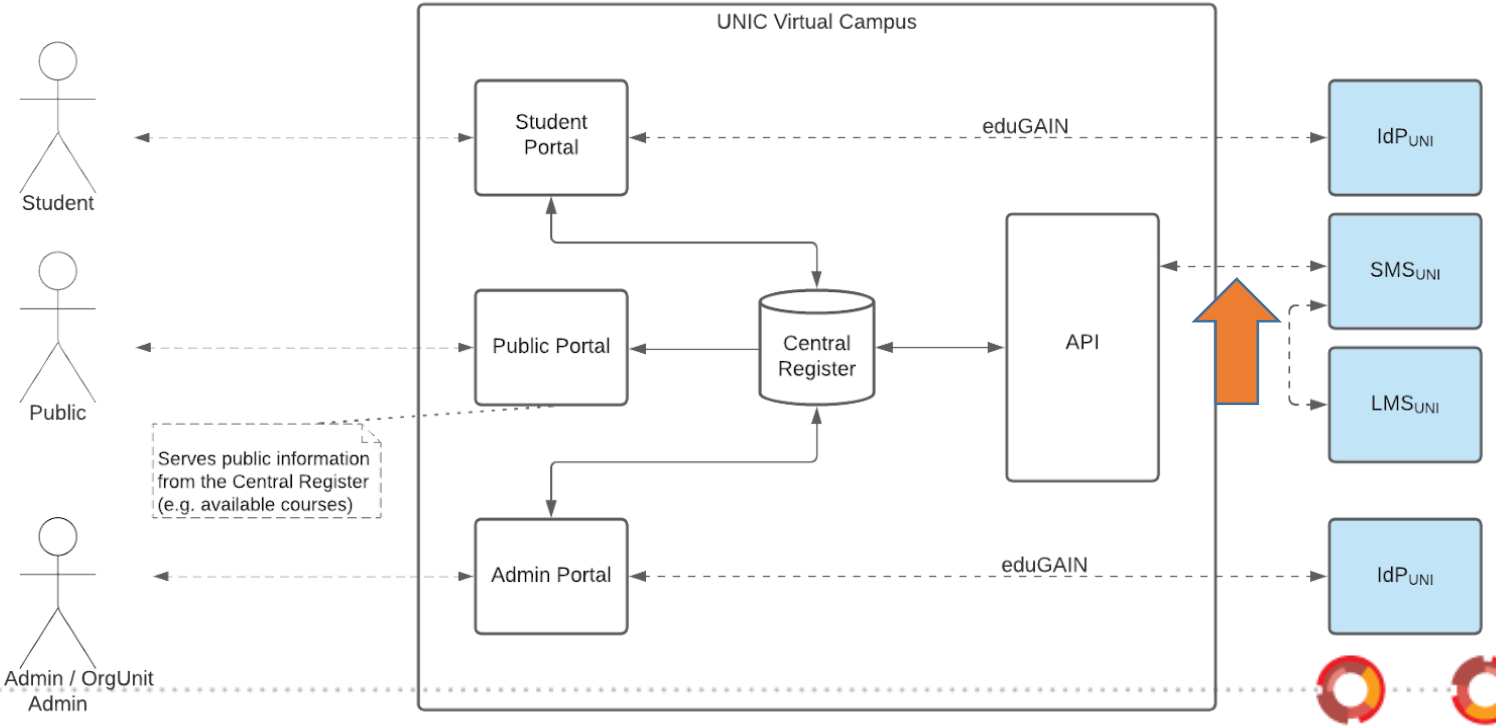
UNIC VC interactions

- Provides web applications through the Admin Portal, so the universities which are not ready for the data exchange can still use the system

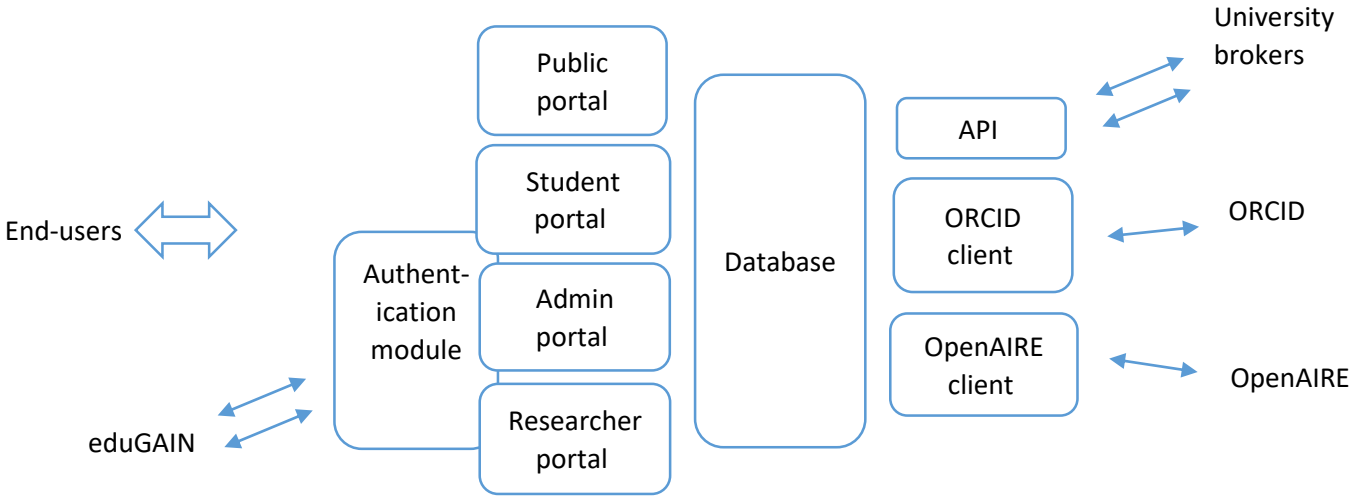


UNIC VC interactions

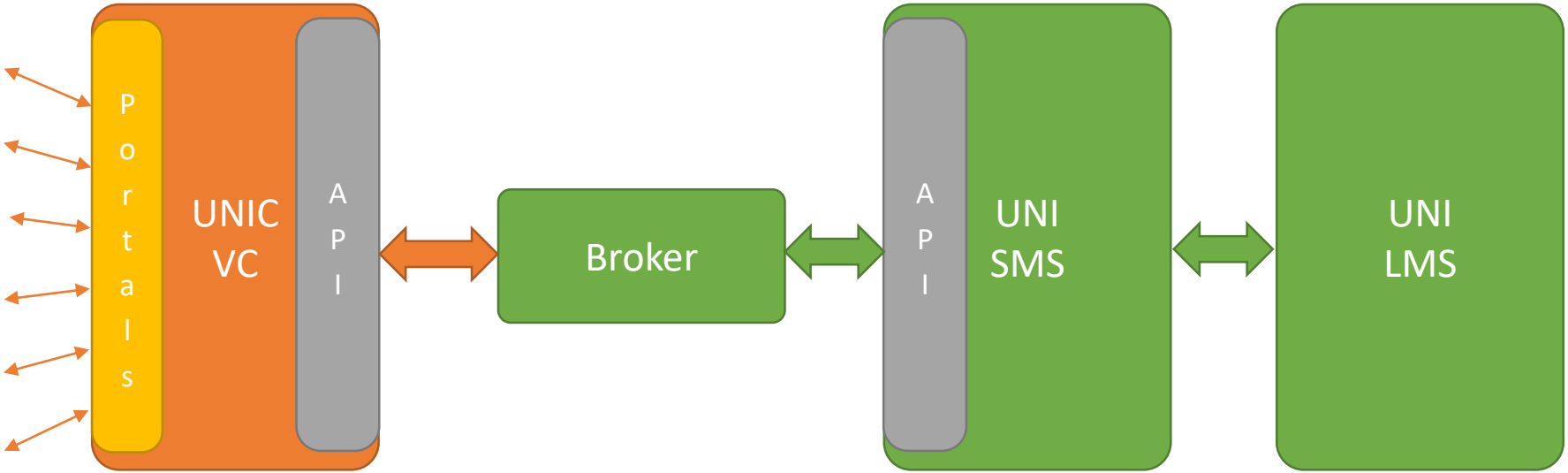
- For successful implementation, the link between UNIC VC and local SMSs is crucial



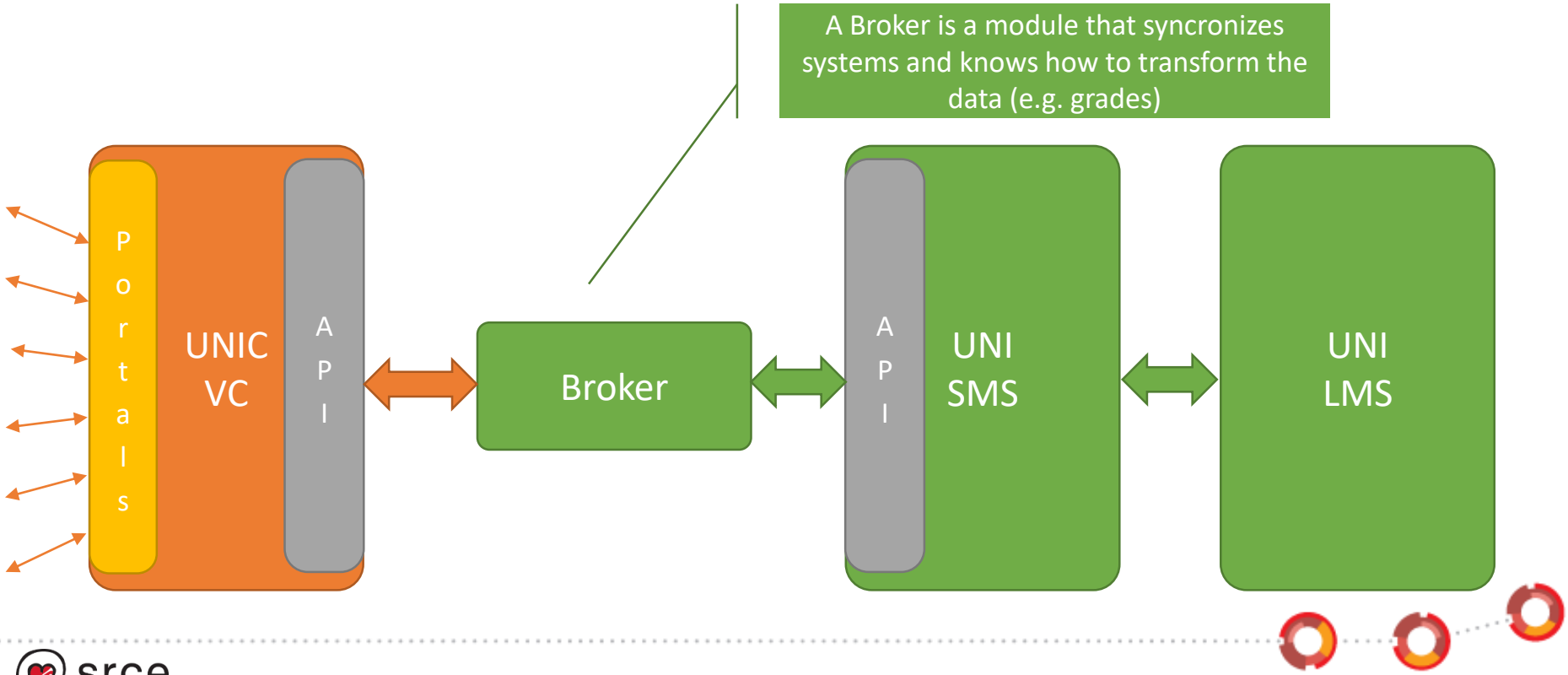
Future outlook (fall 2023)



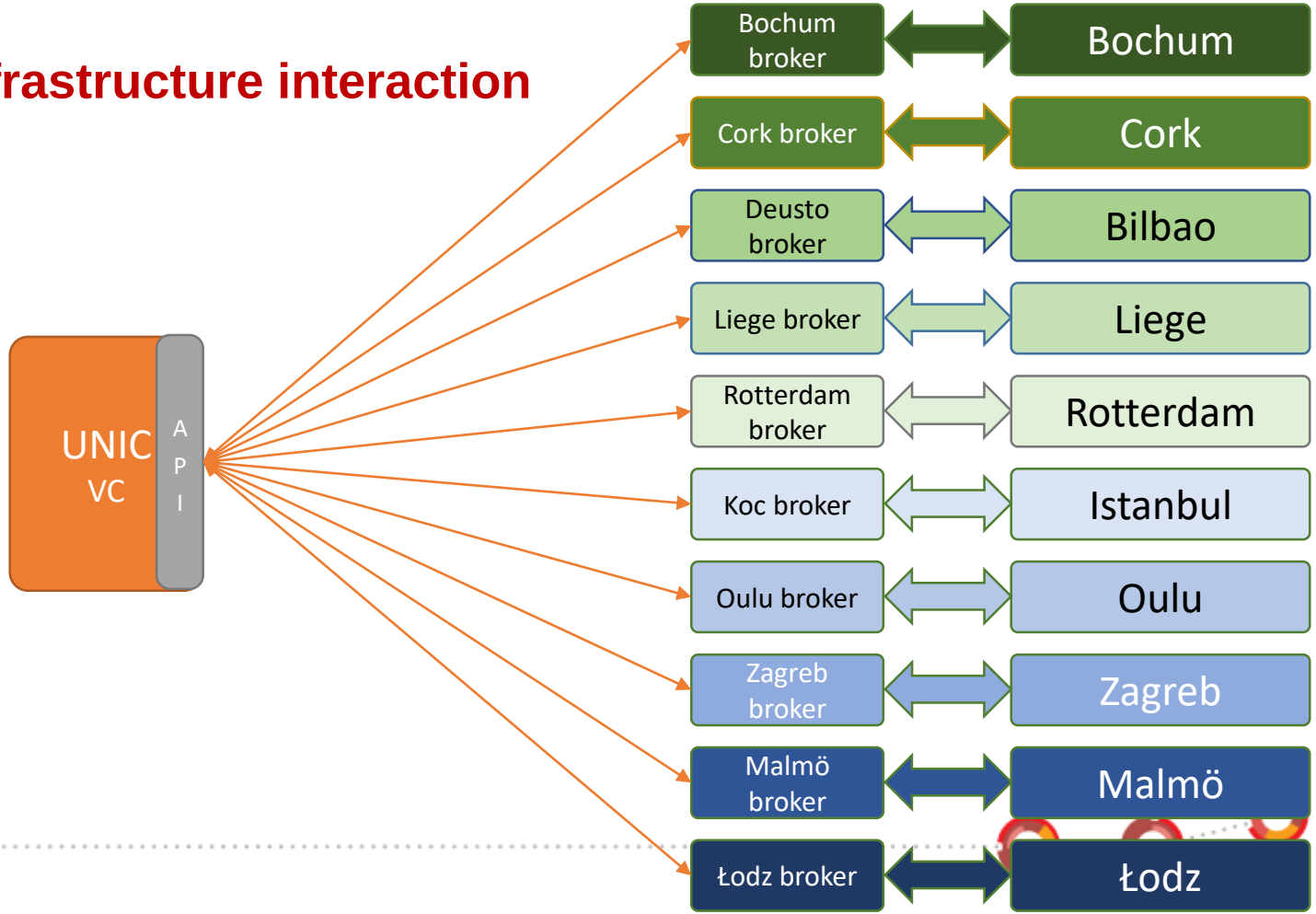
VC – UNI infrastructure interaction



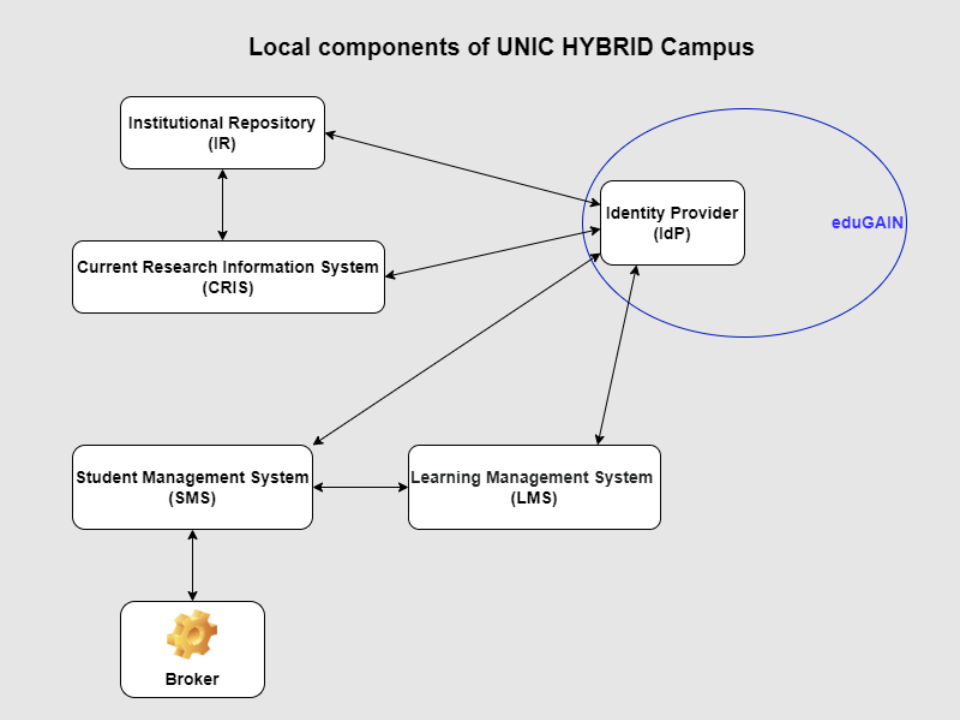
VC – UNI infrastructure interaction



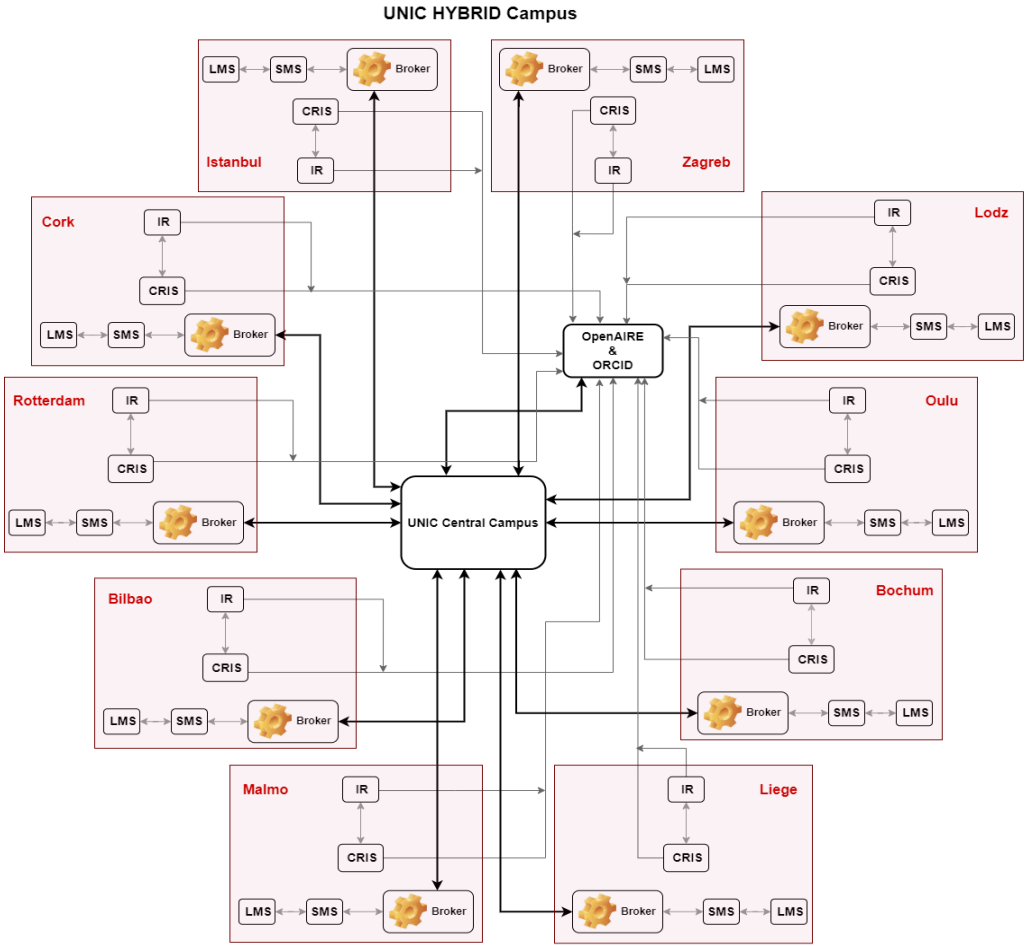
VC – UNI infrastructure interaction



Local (University level) Components



VC – UNI infrastructure interaction



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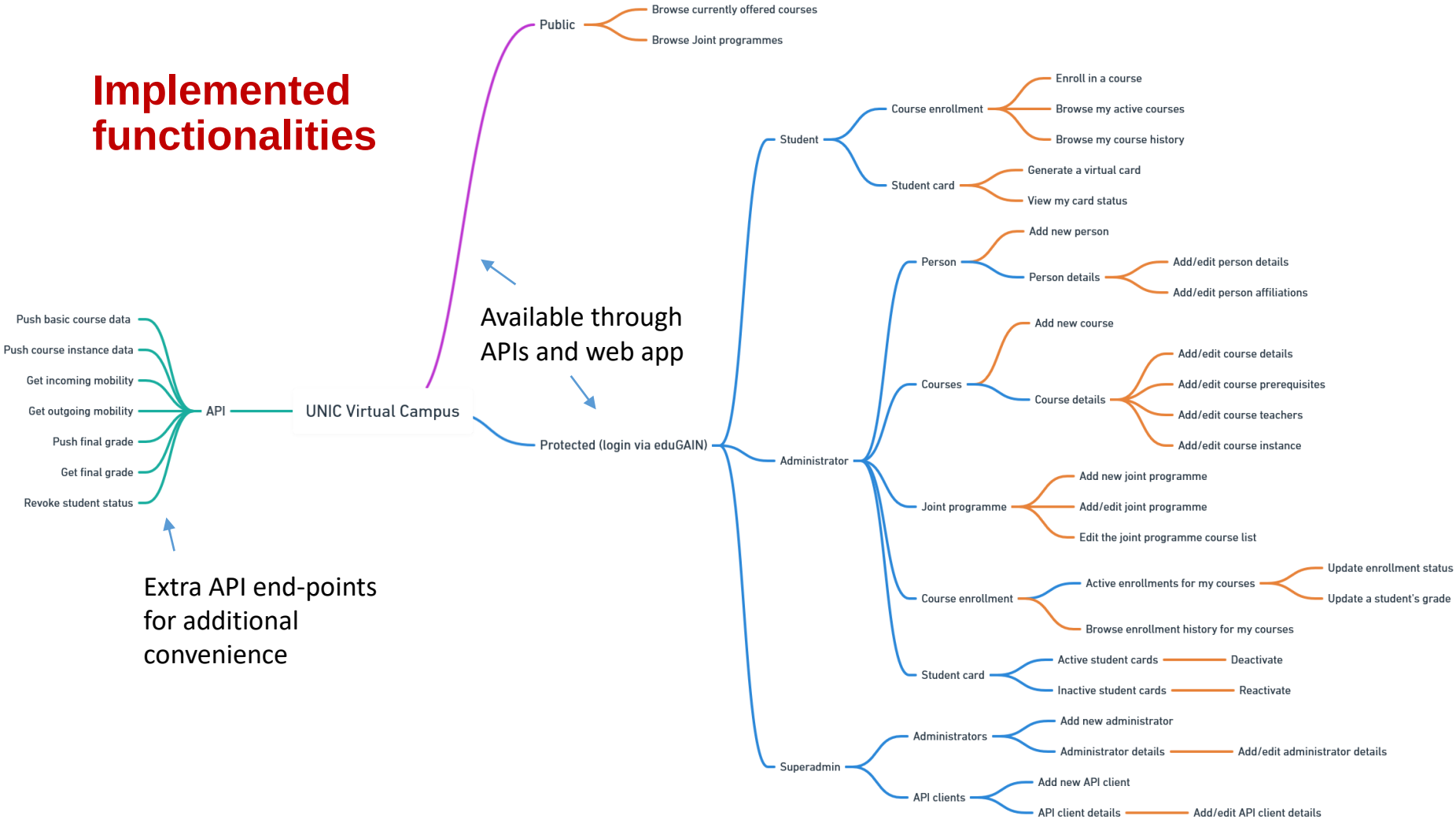
User roles

- System administrators
- University administrators
- Organizational unit (faculty, department, ...) administrators
- Students
- Researchers

Functionalities overview and Current status of UNIC VC

Implemented functionalities



VC Supports…

- UNIC European Student Card
- Course catalogue
- Joint-8 programmes catalogue
- Virtual mobility – course selection, enrolment, grade exchange
- Open Science Campus (UNIC4ER)
- ...

VC Supports…

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- ...

= In development

= In production

UNIC European Student Card

- Virtual only
- Can be represented in digital form and carried in a mobile device
- Generated by, stored in and verified by UNIC VC
- Contains minimal set of data related to a student
- Can be revoked or reactivated at any time by an administrator
- Validated by scanning the code on the card

UNIC European Student Card

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Course catalogue

- A public list of courses offered by all universities
- Automated entry via APIs (or manual)
- Course data:
  - IDs
  - Name
  - Description
  - URI
  - ISCED code
  - Teachers
  - Prerequisites
  - Course instances and quotas

Joint programmes catalogue

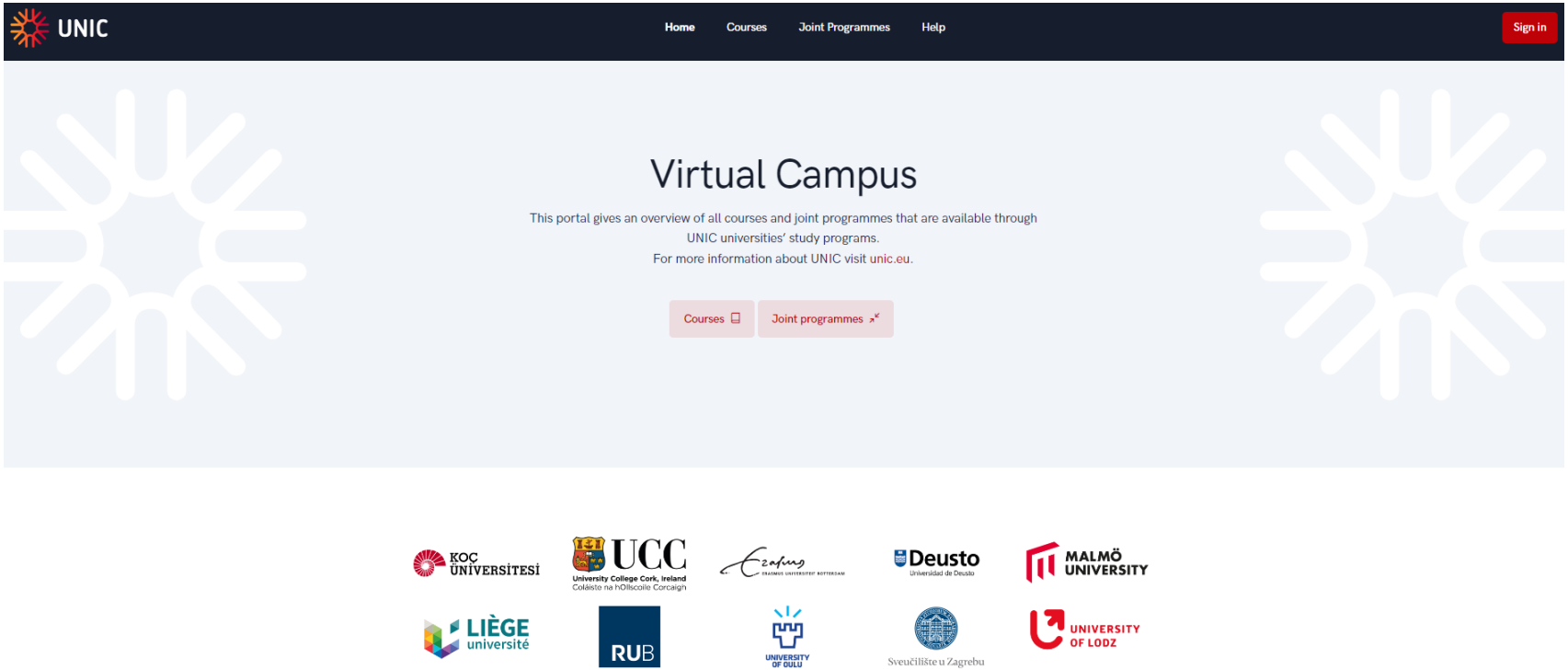
- A public list of programmes and their courses offered by UNIC
- Automated entry via APIs (or manual) of courses
- Manual entry of programmes and course addition
- Programme data:
  - ID
  - Name
  - Administrating university
  - List of courses

Virtual mobility (happy path; example from Oulu to Zagreb)

- Student from Zagreb browses courses and enrols in a one offered by Oulu
- Local administrator from Zagreb checks the prerequisites – approves it
- Local administrator from Oulu checks the student application – approves it
- Student's data is sent to Oulu SMS
- Student gets the admission to Oulu SMS & LMS
- Student gets the grade (in Oulu SMS), transferred to VC
- Student's grade is transferred from VC to Zagreb SMS

Current functionalities in the UNIC VC web applications

Home page


UNIC
Home
Courses
Joint Programmes
Help
Sign in
Virtual Campus
This portal gives an overview of all courses and joint programmes that are available through UNIC universities' study programs.
For more information about UNIC visit unic.eu.
Courses
Joint programmes
KOÇ ÜNİVERSİTESİ
UCC
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh
Erasmus University Rotterdam
Deusto
Universidad de Deusto
MALMÖ UNIVERSITY
LIÈGE université
RUB
UNIVERSITY OF OULU
Sveučilište u Zagrebu
UNIVERSITY OF LODZ
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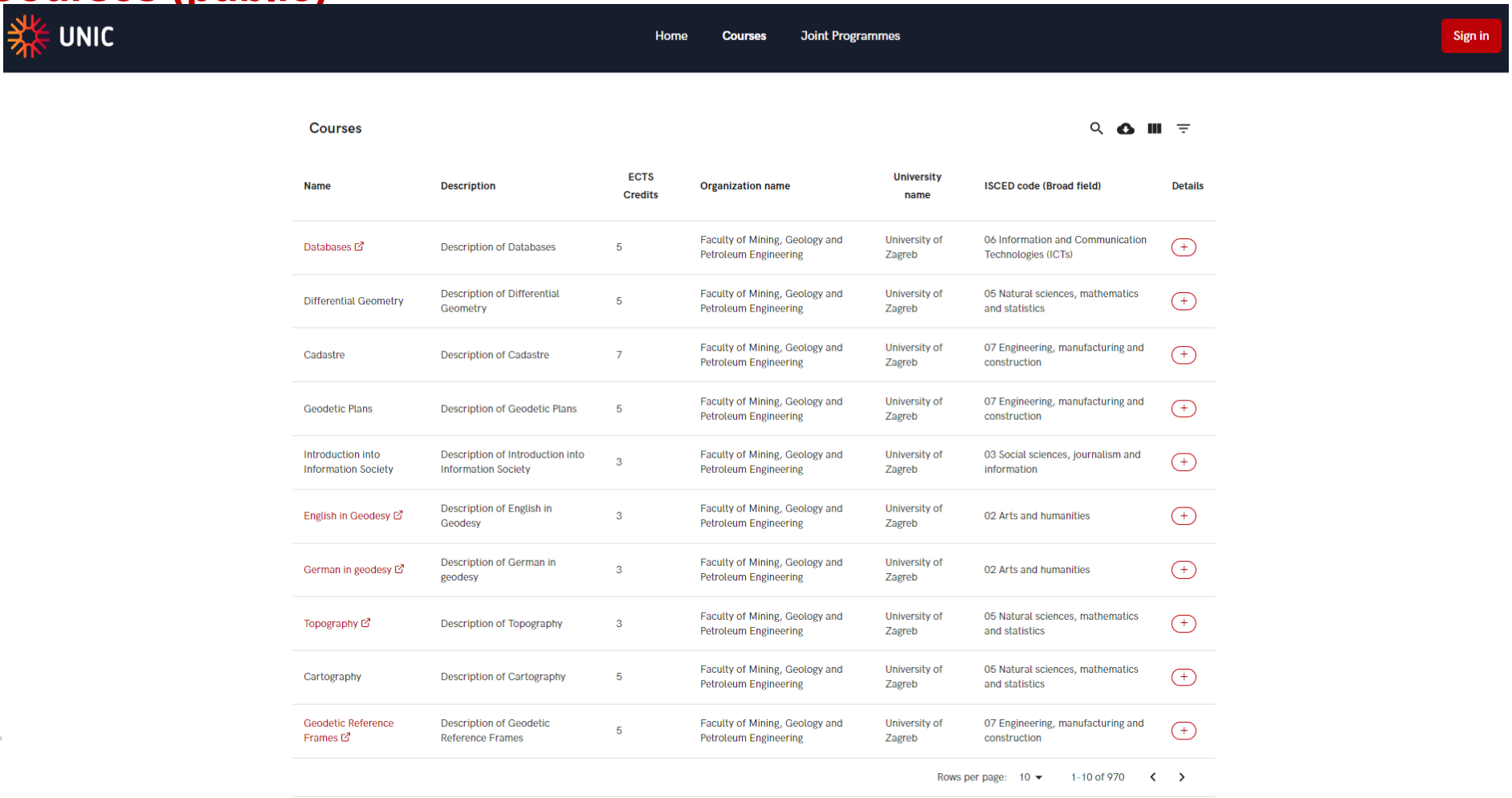
Accessibility statement
Software support (c) and maintenance :: University of Zagreb University Computing Centre

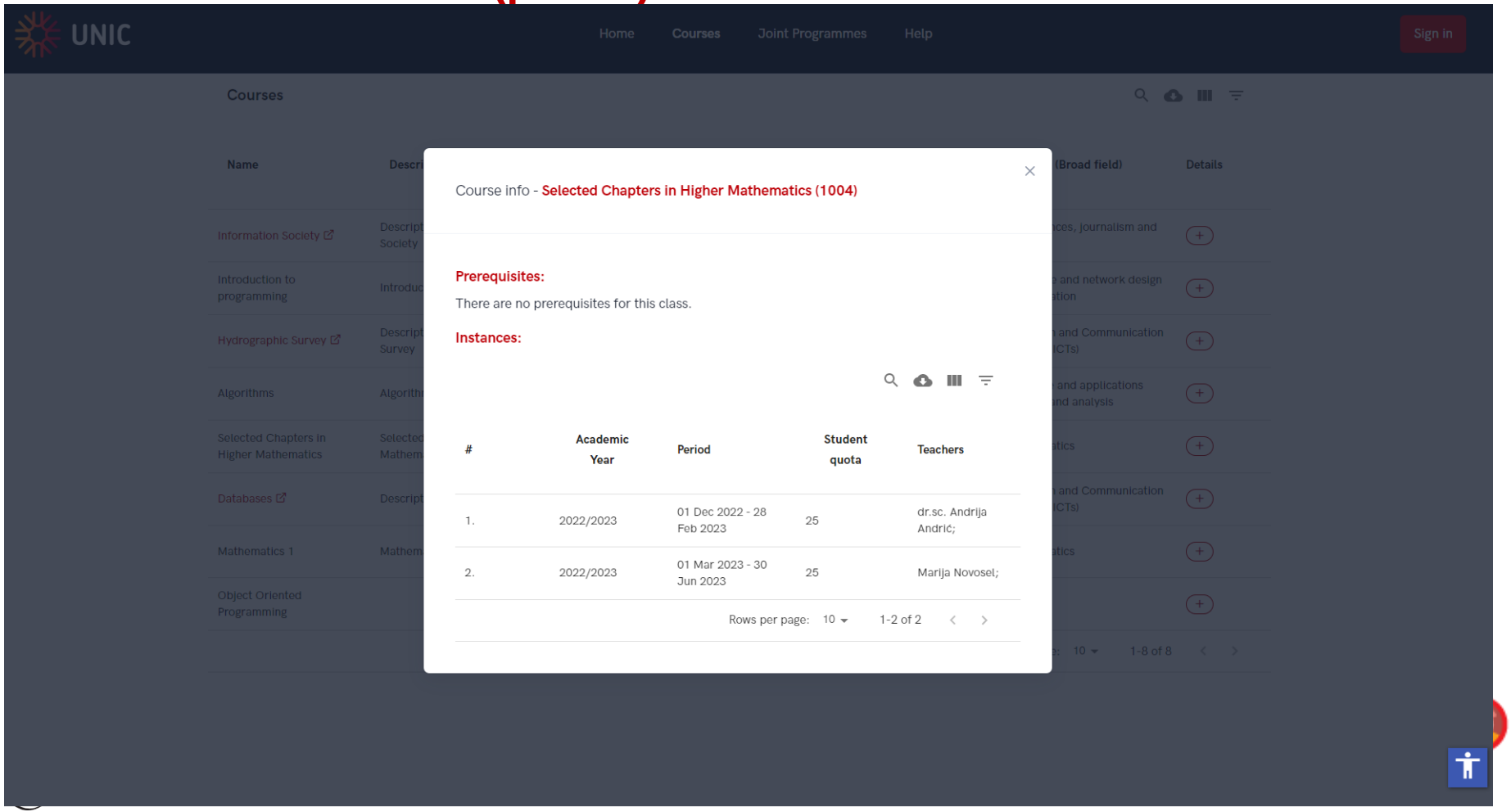
Courses (public)



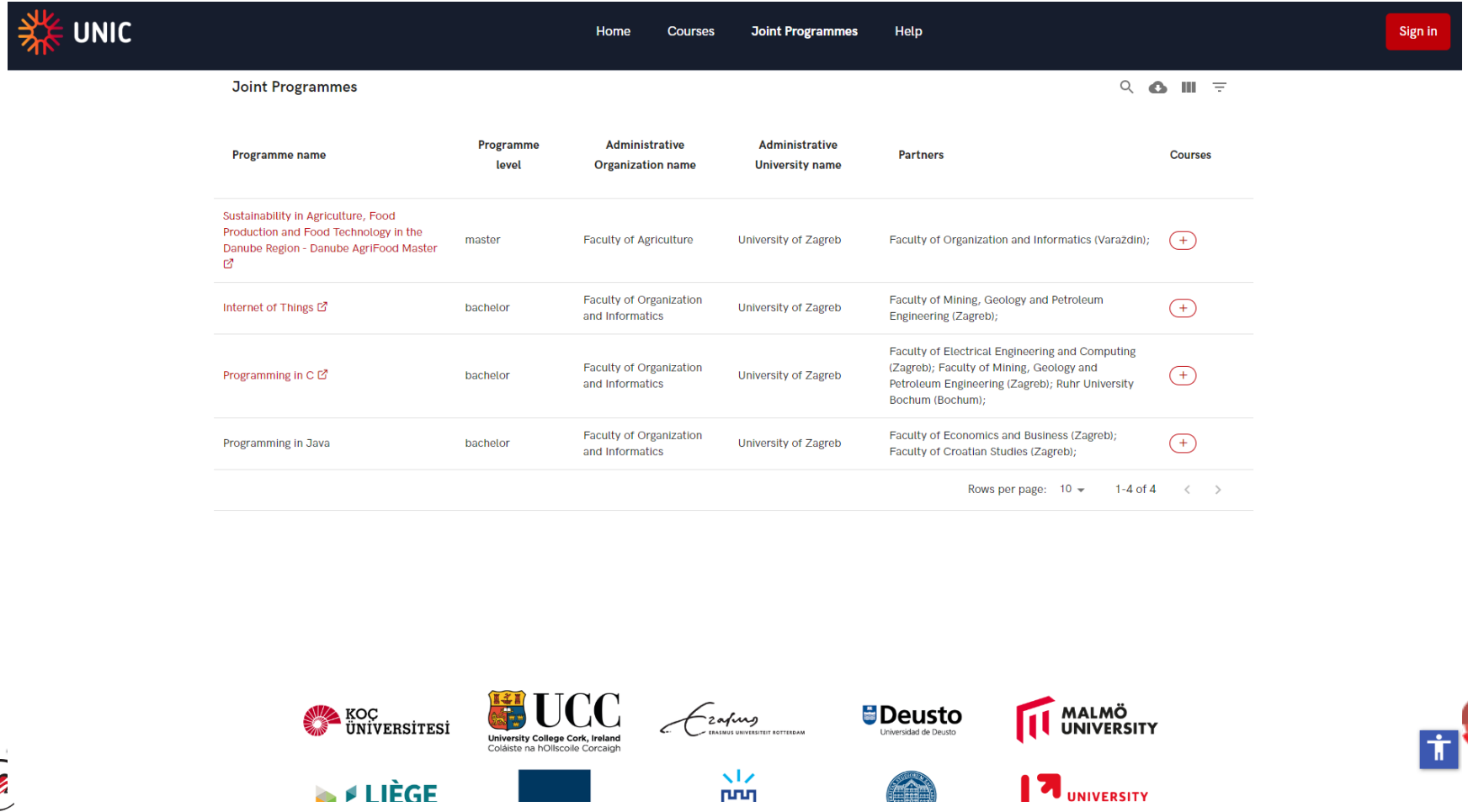
Name	Description	ECTS Credits	Organization name	University name	ISCED code (Broad field)	Details
Databases	Description of Databases	5	Faculty of Mining, Geology and Petroleum Engineering	University of Zagreb	06 Information and Communication Technologies (ICTs)	+
Differential Geometry	Description of Differential Geometry	5	Faculty of Mining, Geology and Petroleum Engineering	University of Zagreb	05 Natural sciences, mathematics and statistics	+
Cadastre	Description of Cadastre	7	Faculty of Mining, Geology and Petroleum Engineering	University of Zagreb	07 Engineering, manufacturing and construction	+
Geodetic Plans	Description of Geodetic Plans	5	Faculty of Mining, Geology and Petroleum Engineering	University of Zagreb	07 Engineering, manufacturing and construction	+
Introduction into Information Society	Description of Introduction into Information Society	3	Faculty of Mining, Geology and Petroleum Engineering	University of Zagreb	03 Social sciences, journalism and information	+
English in Geodesy	Description of English in Geodesy	3	Faculty of Mining, Geology and Petroleum Engineering	University of Zagreb	02 Arts and humanities	+
German in geodesy	Description of German in geodesy	3	Faculty of Mining, Geology and Petroleum Engineering	University of Zagreb	02 Arts and humanities	+
Topography	Description of Topography	3	Faculty of Mining, Geology and Petroleum Engineering	University of Zagreb	05 Natural sciences, mathematics and statistics	+
Cartography	Description of Cartography	5	Faculty of Mining, Geology and Petroleum Engineering	University of Zagreb	05 Natural sciences, mathematics and statistics	+
Geodetic Reference Frames	Description of Geodetic Reference Frames	5	Faculty of Mining, Geology and Petroleum Engineering	University of Zagreb	07 Engineering, manufacturing and construction	+

Rows per page: 10 1-10 of 970

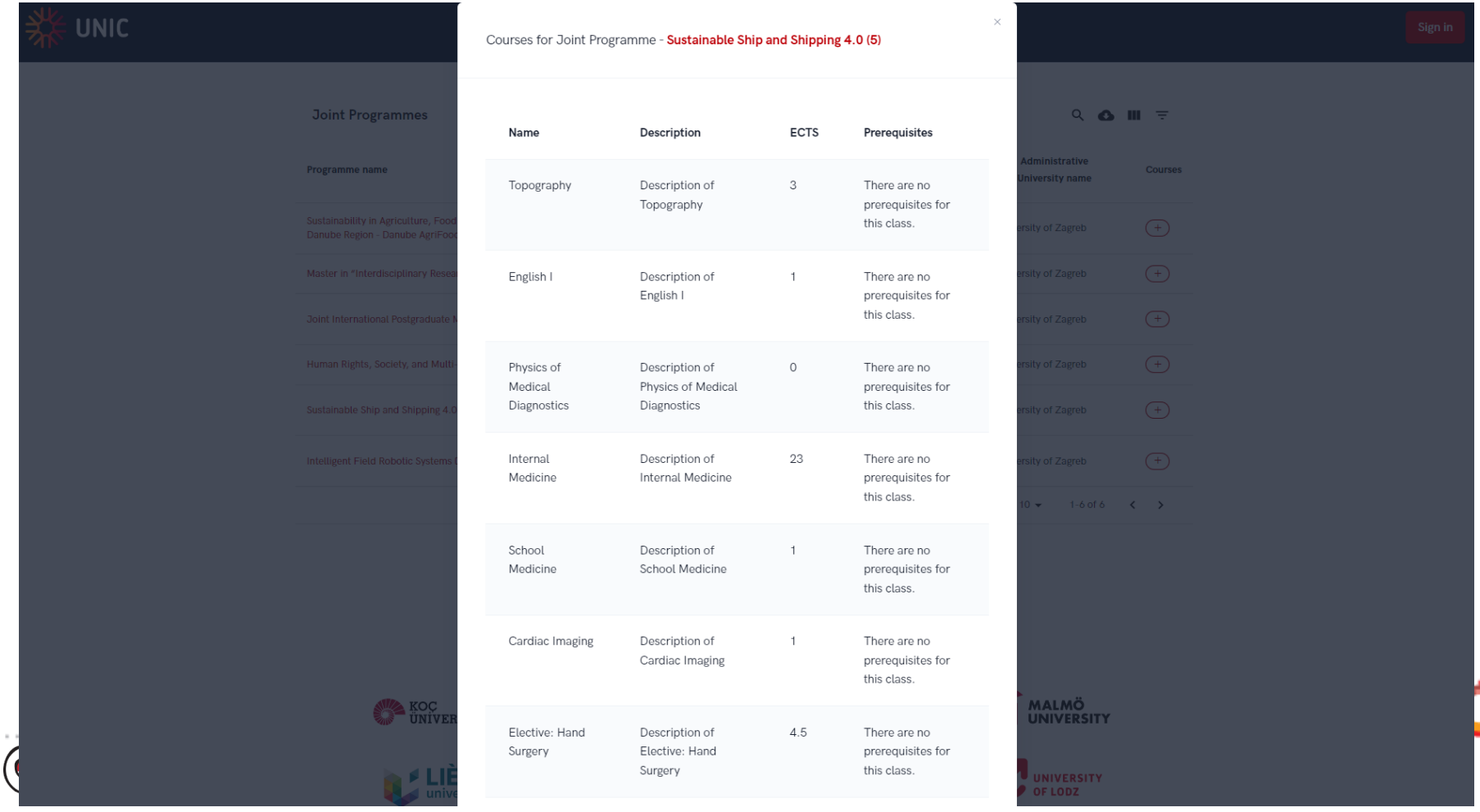
Course instance details (public)



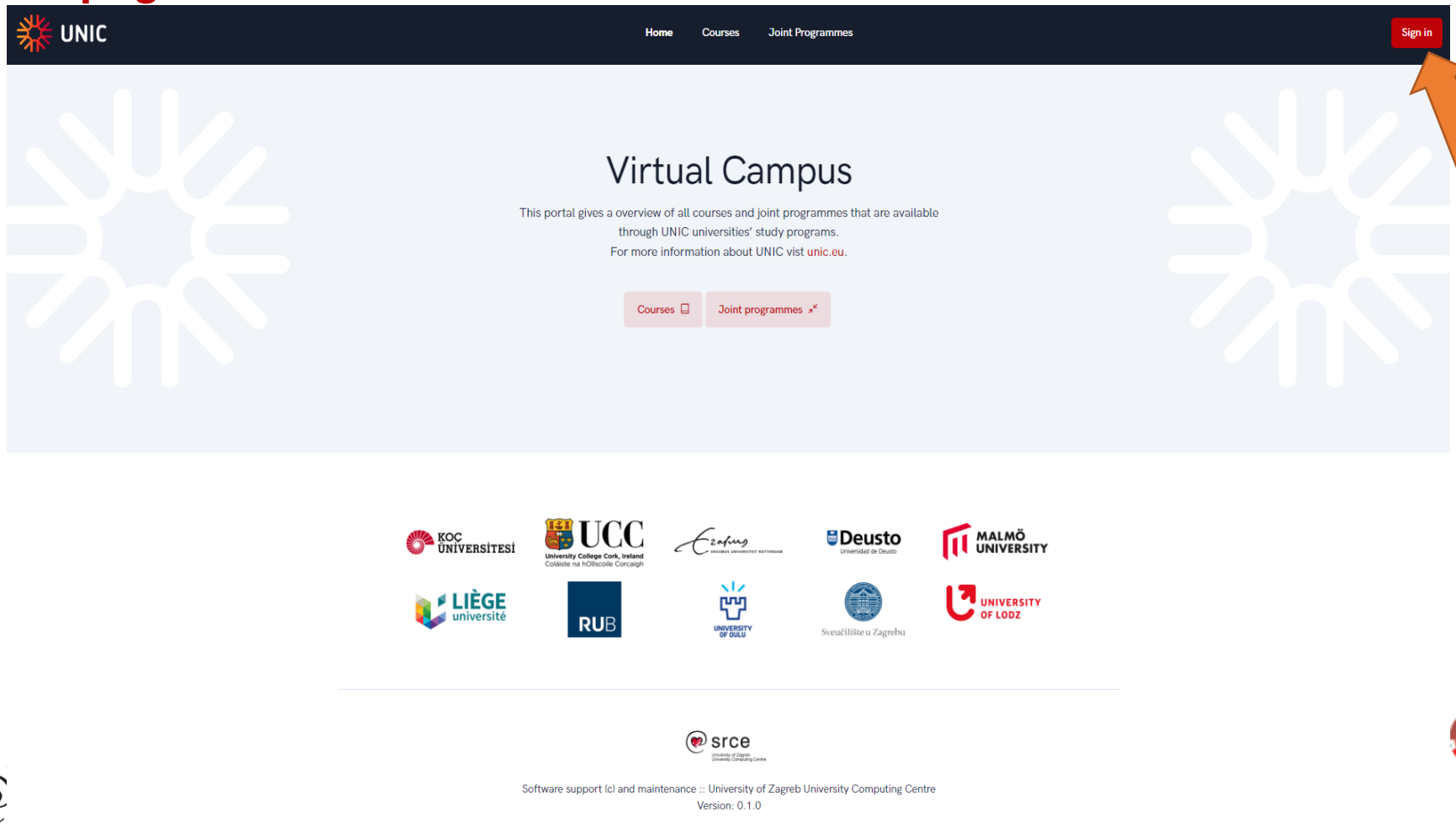
Joint Programmes (public)



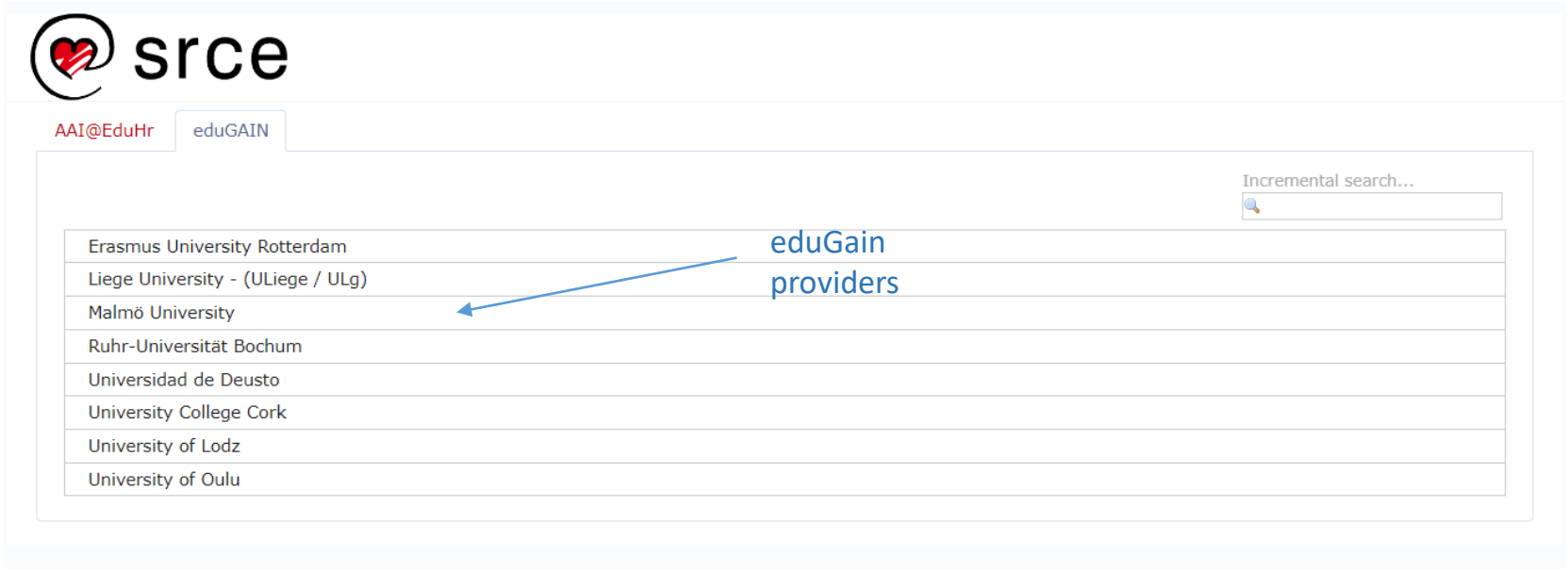
Joint Programme - Courses



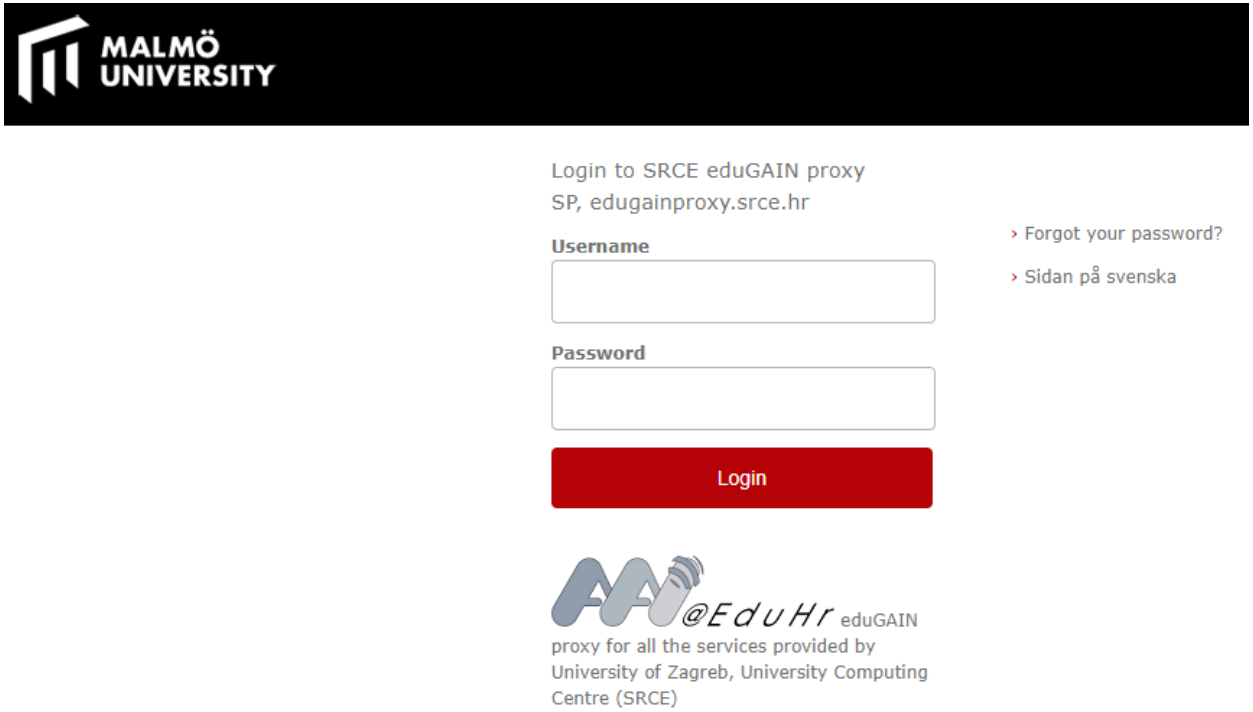
Home page


UNIC
Home
Courses
Joint Programmes
Sign in
Virtual Campus
This portal gives a overview of all courses and joint programmes that are available through UNIC universities' study programs.
For more information about UNIC vist unic.eu.
Courses
Joint programmes
KOÇ UNIVERSITESI
UCC
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh
Erasmus University Rotterdam
Deusto
Universidad de Deusto
MALMÖ UNIVERSITY
LIÈGE université
RUB
UNIVERSITY OF OULU
Sveučilište u Zagrebu
UNIVERSITY OF LODZ
srce
University of Zagreb University Computing Centre
Software support (c) and maintenance :: University of Zagreb University Computing Centre
Version: 0.1.0

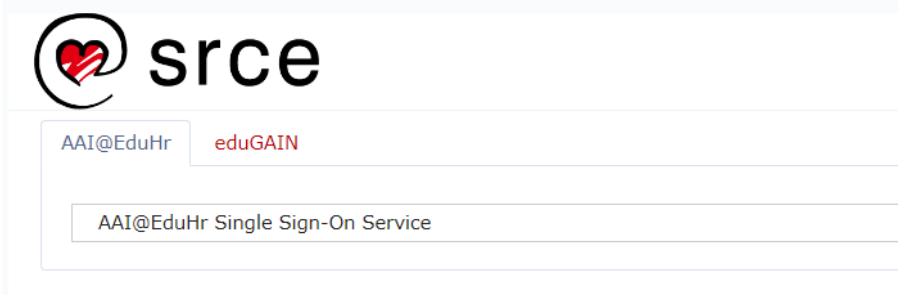
Sign in

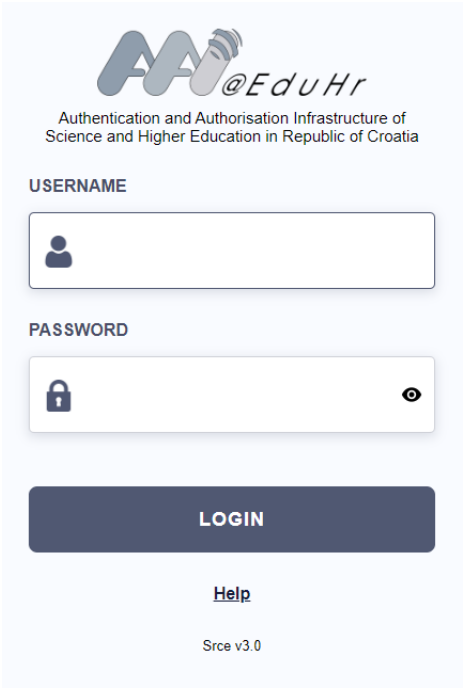

srce
AAI@EduHr
eduGAIN
Incremental search...
Erasmus University Rotterdam
Liege University - (ULiege / ULg)
Malmö University
Ruhr-Universität Bochum
Universidad de Deusto
University College Cork
University of Lodz
University of Oulu
eduGain
providers

Sign in

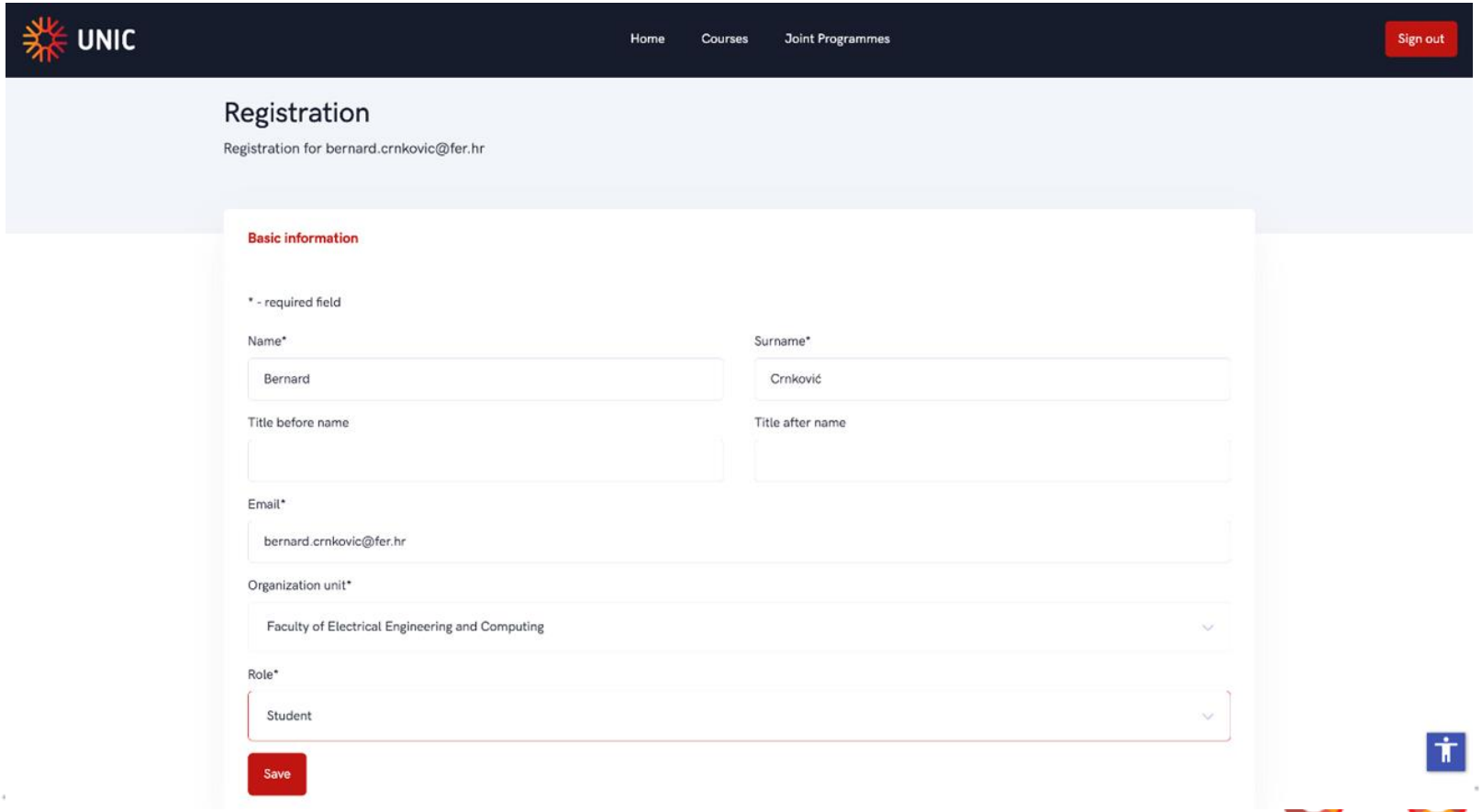

MALMÖ UNIVERSITY
Login to SRCE eduGAIN proxy SP, edugainproxy.srce.hr
Username
Password
Login
› Forgot your password?
› Sidan på svenska
@EduHr eduGAIN proxy for all the services provided by University of Zagreb, University Computing Centre (SRCE)

Sign in

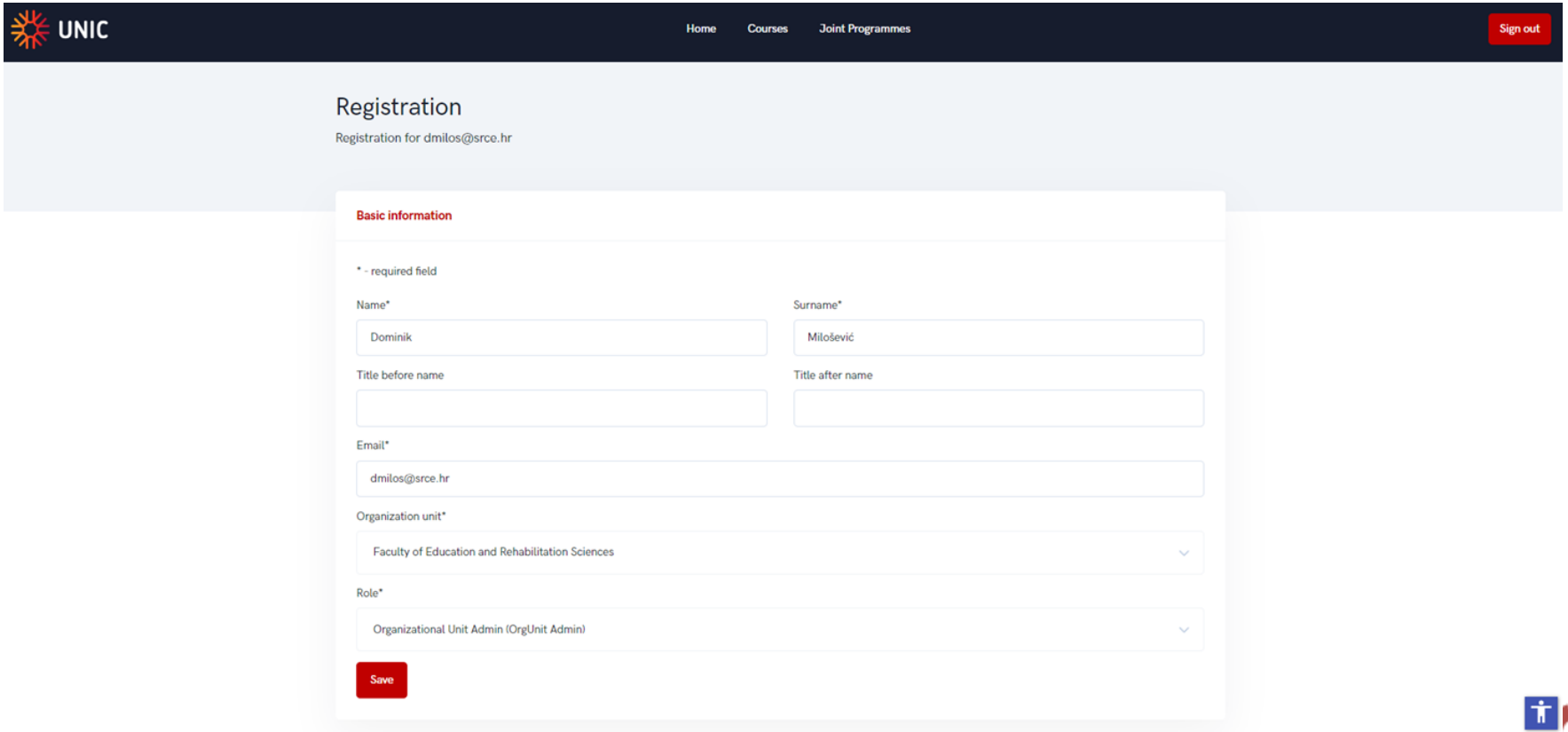

srce
AAI@EduHr
eduGAIN
AAI@EduHr Single Sign-On Service


AAI@EduHr
Authentication and Authorisation Infrastructure of
Science and Higher Education in Republic of Croatia
USERNAME
PASSWORD
LOGIN
Help
Srce v3.0

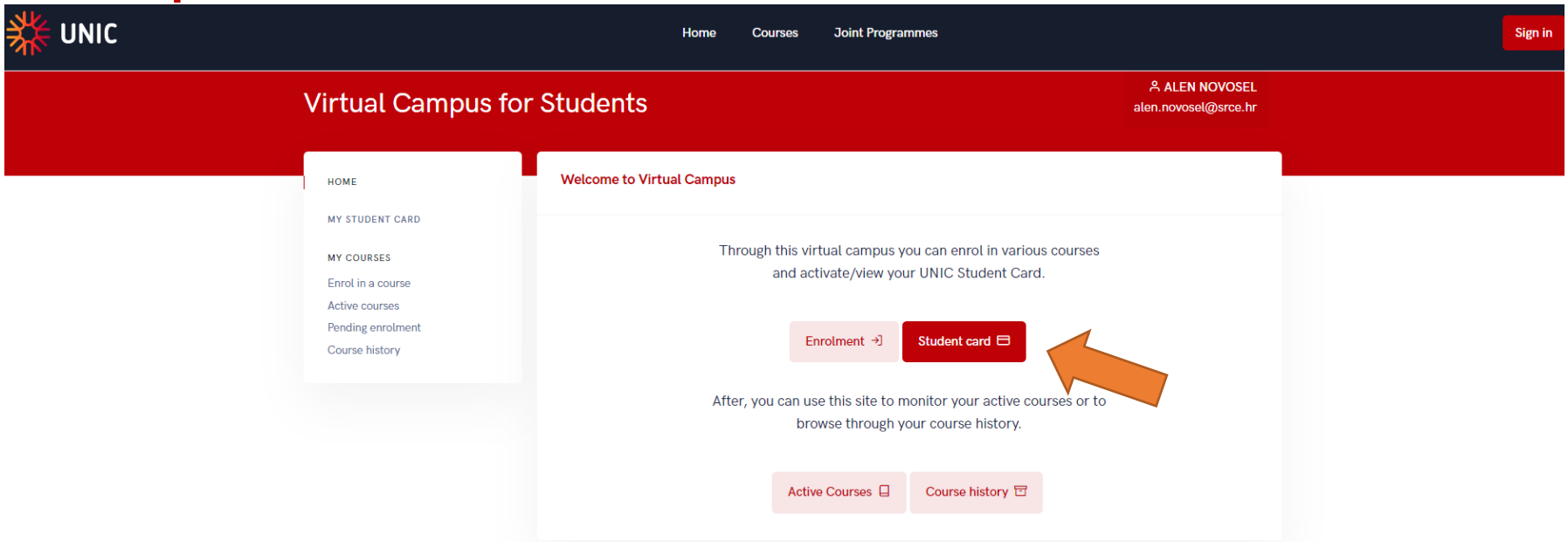
Registration form (first time sign in) – student



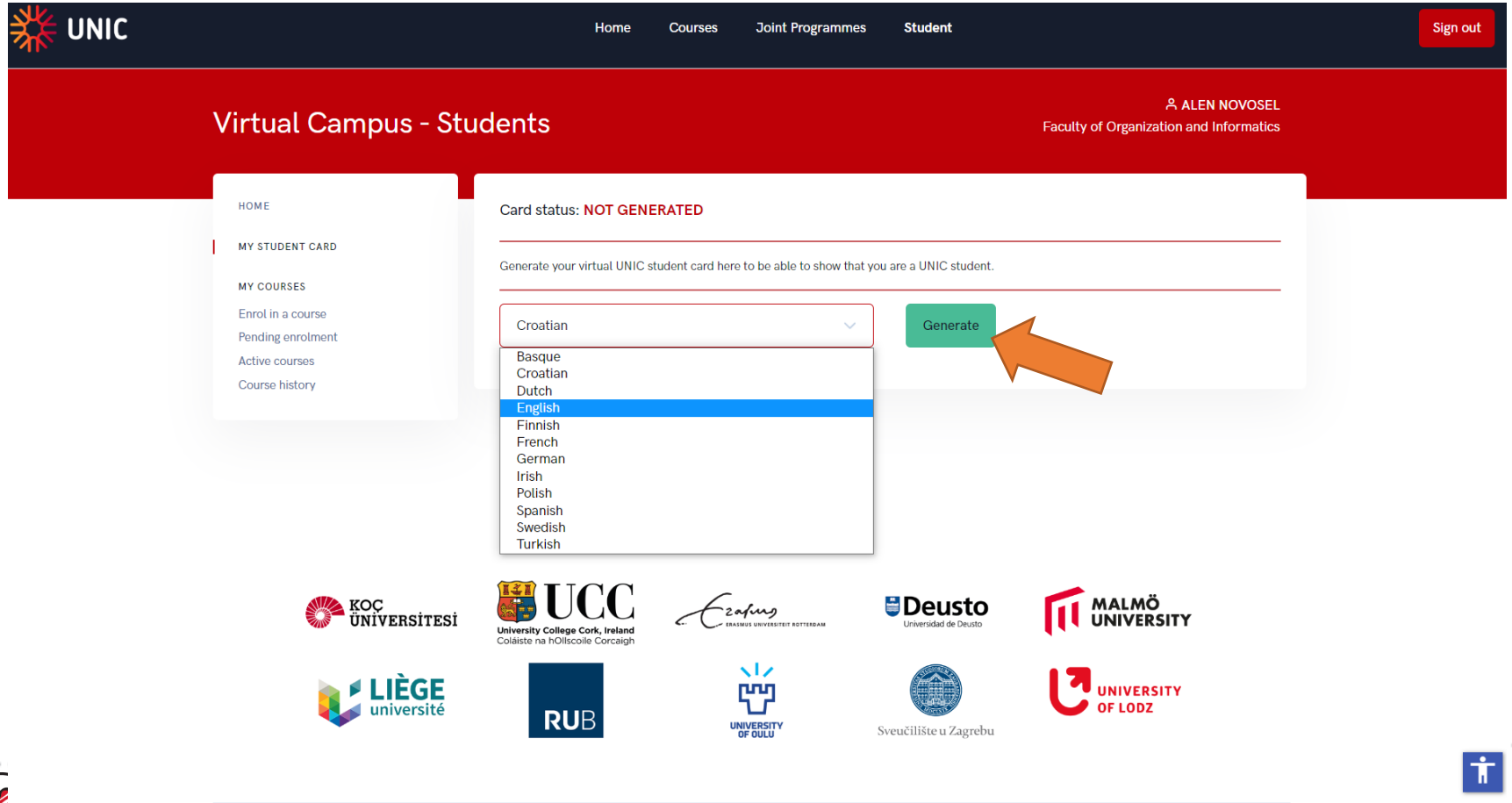
Registration form (first time sign in) – admin



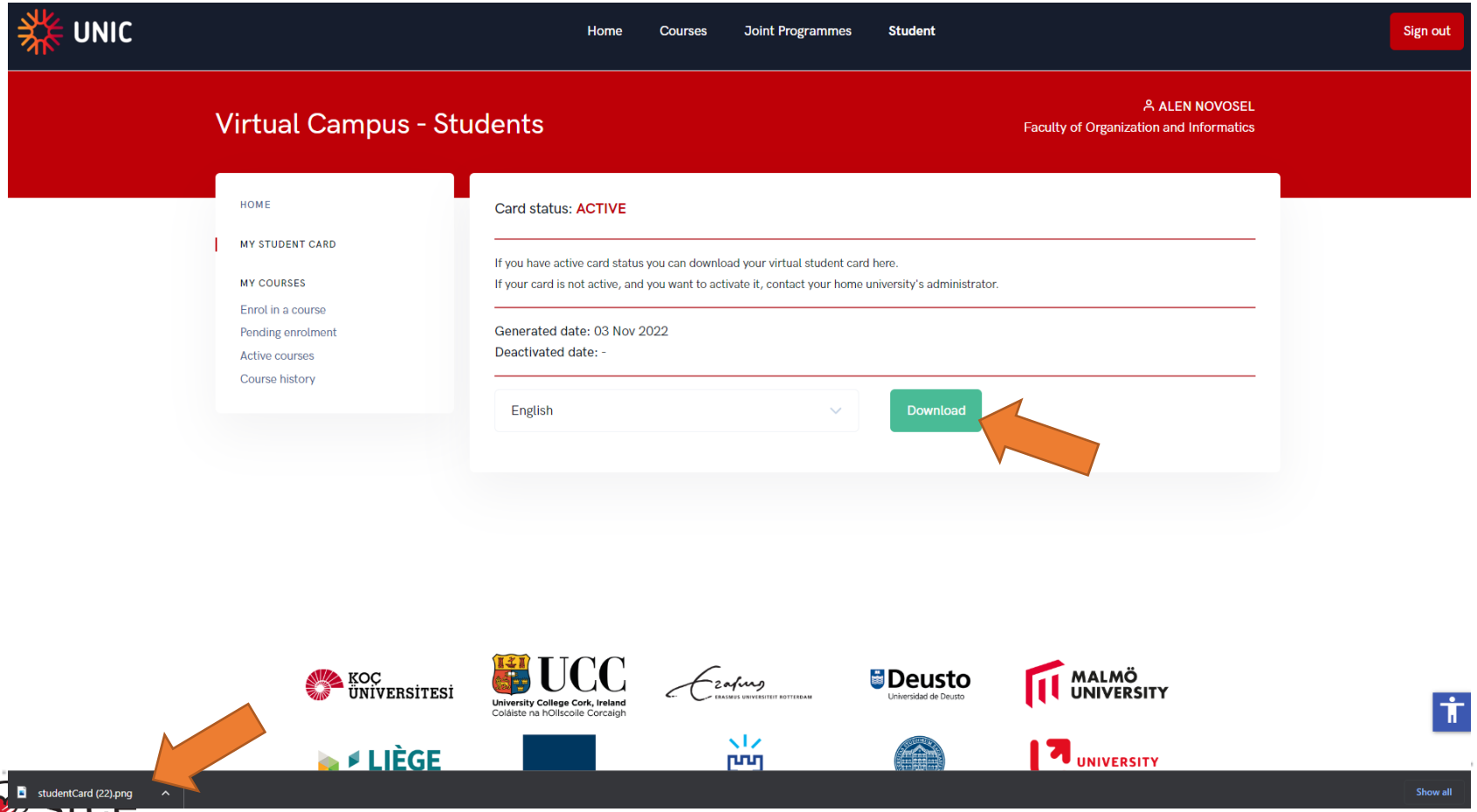
Student portal



Generate the Student Card



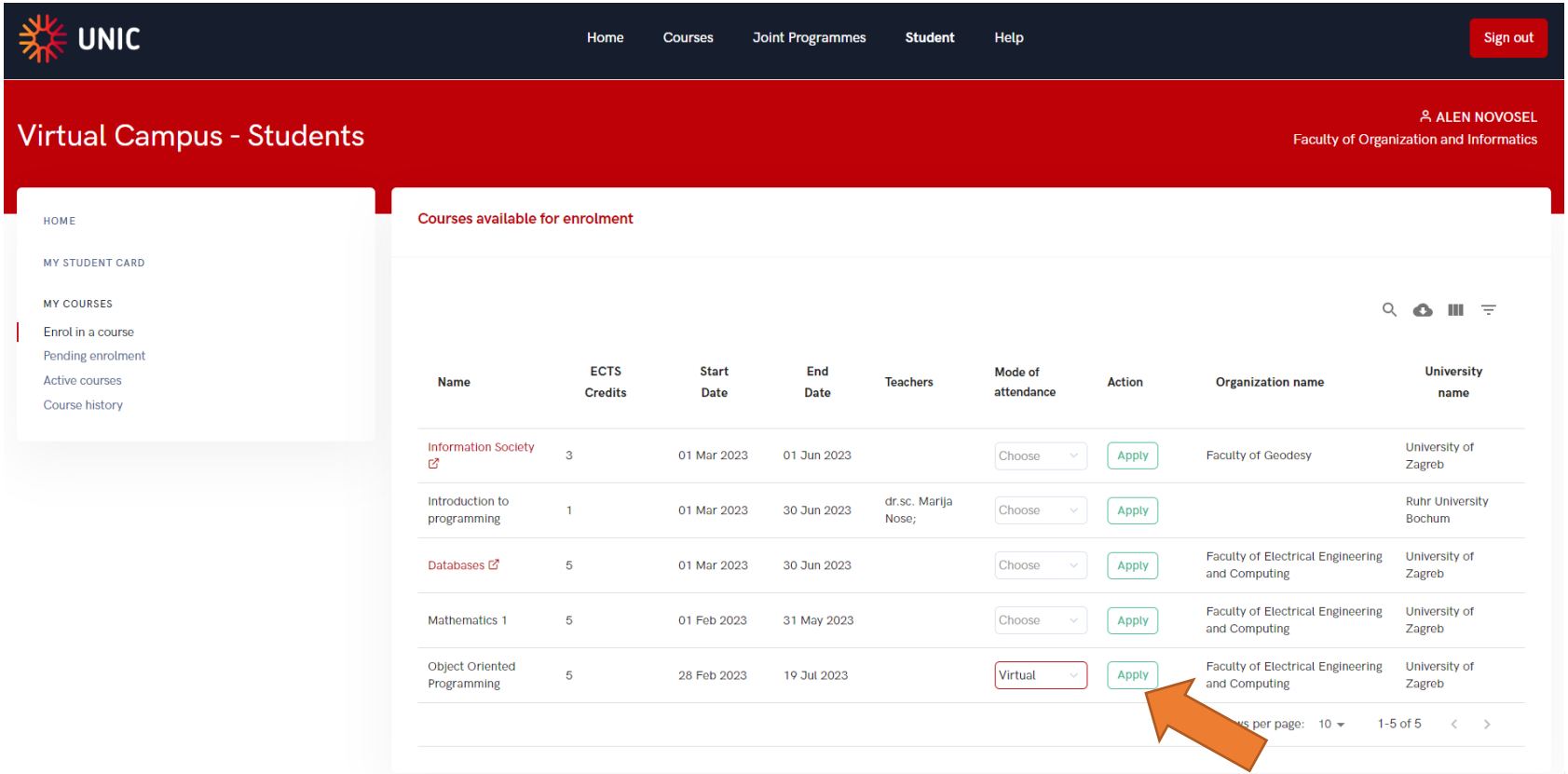
Download the Student Card



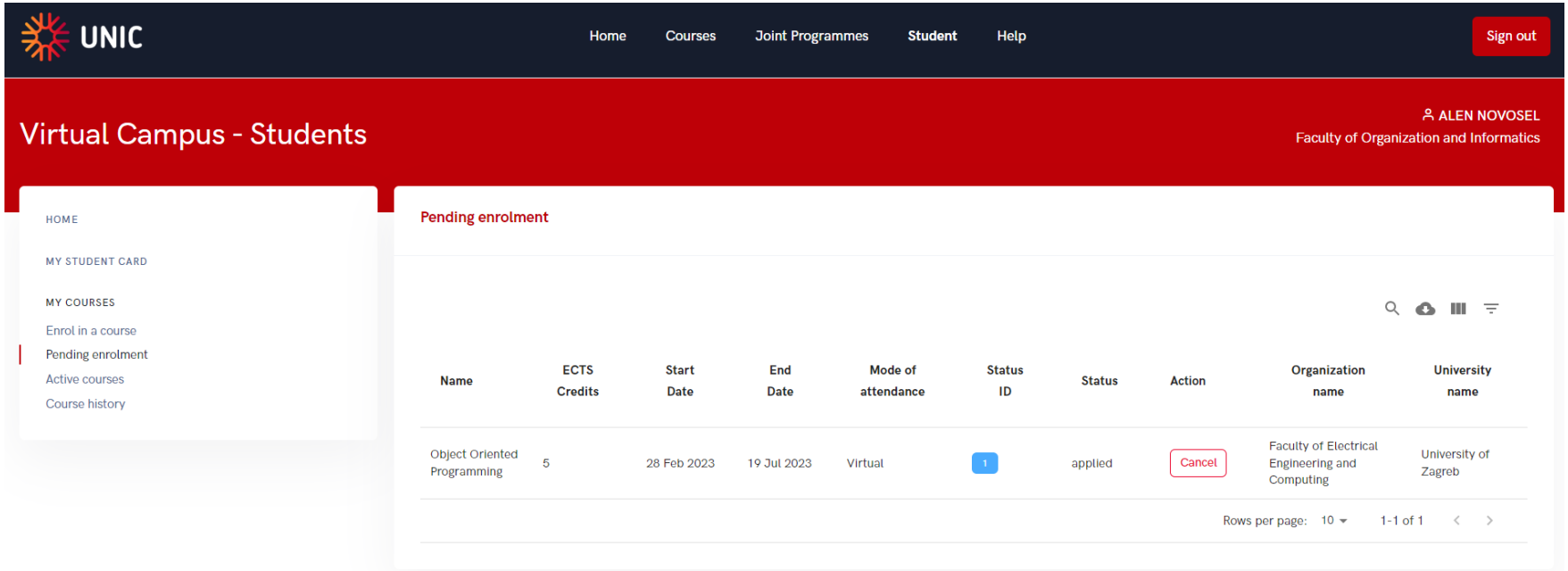
My Student Card

Validation is done by scanning the QR code. That opens the browser with the application that checks the card validity.

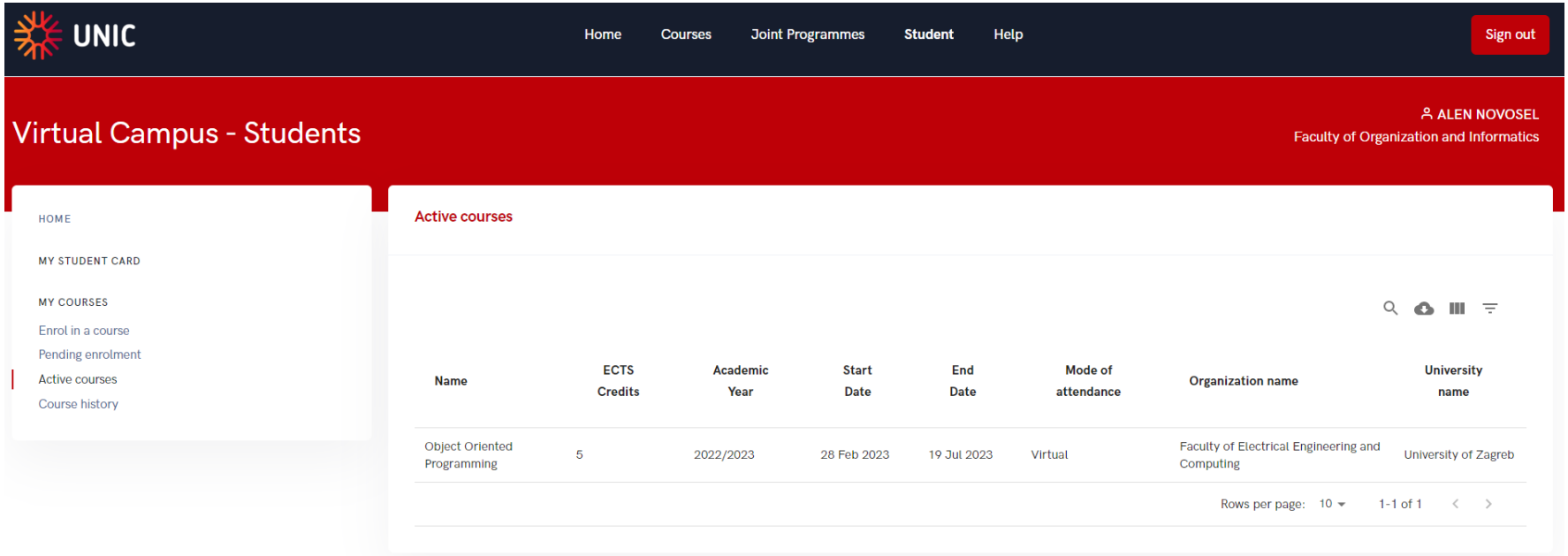
Course enrolment



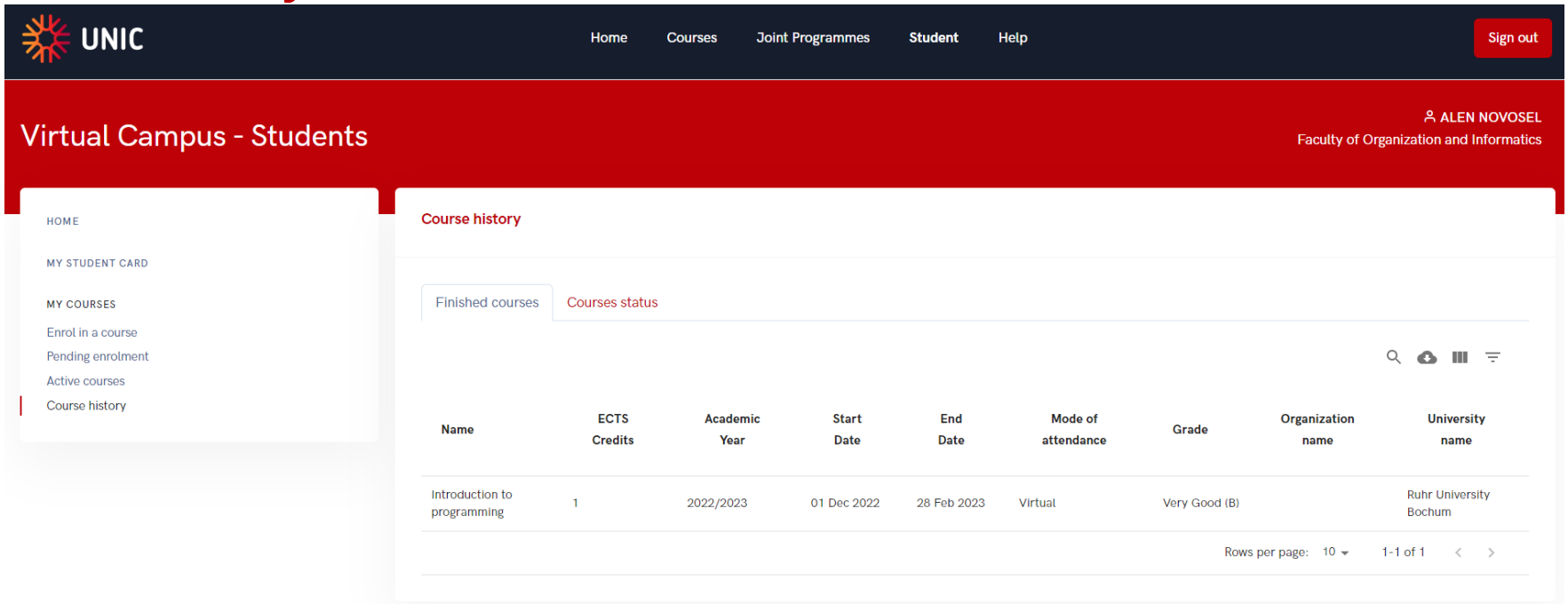
Pending enrolment



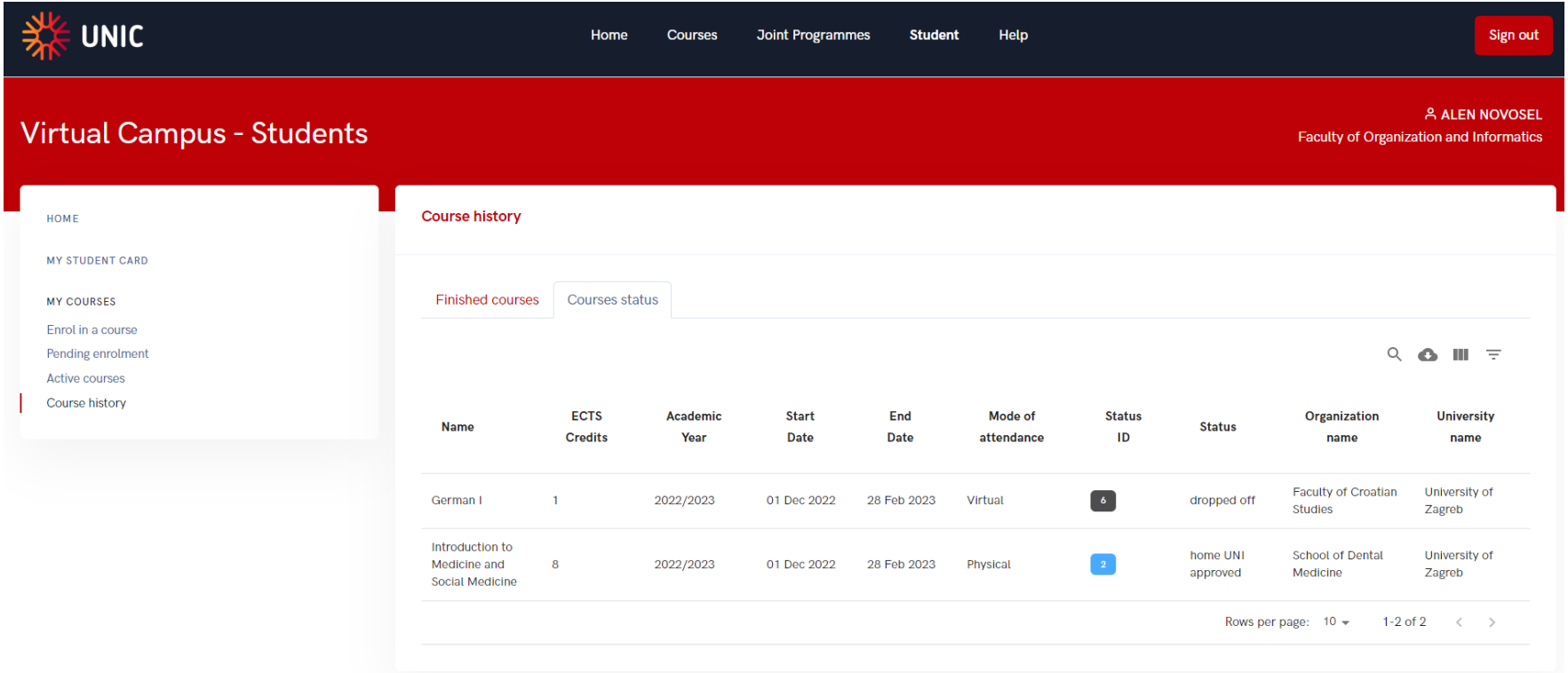
Active courses



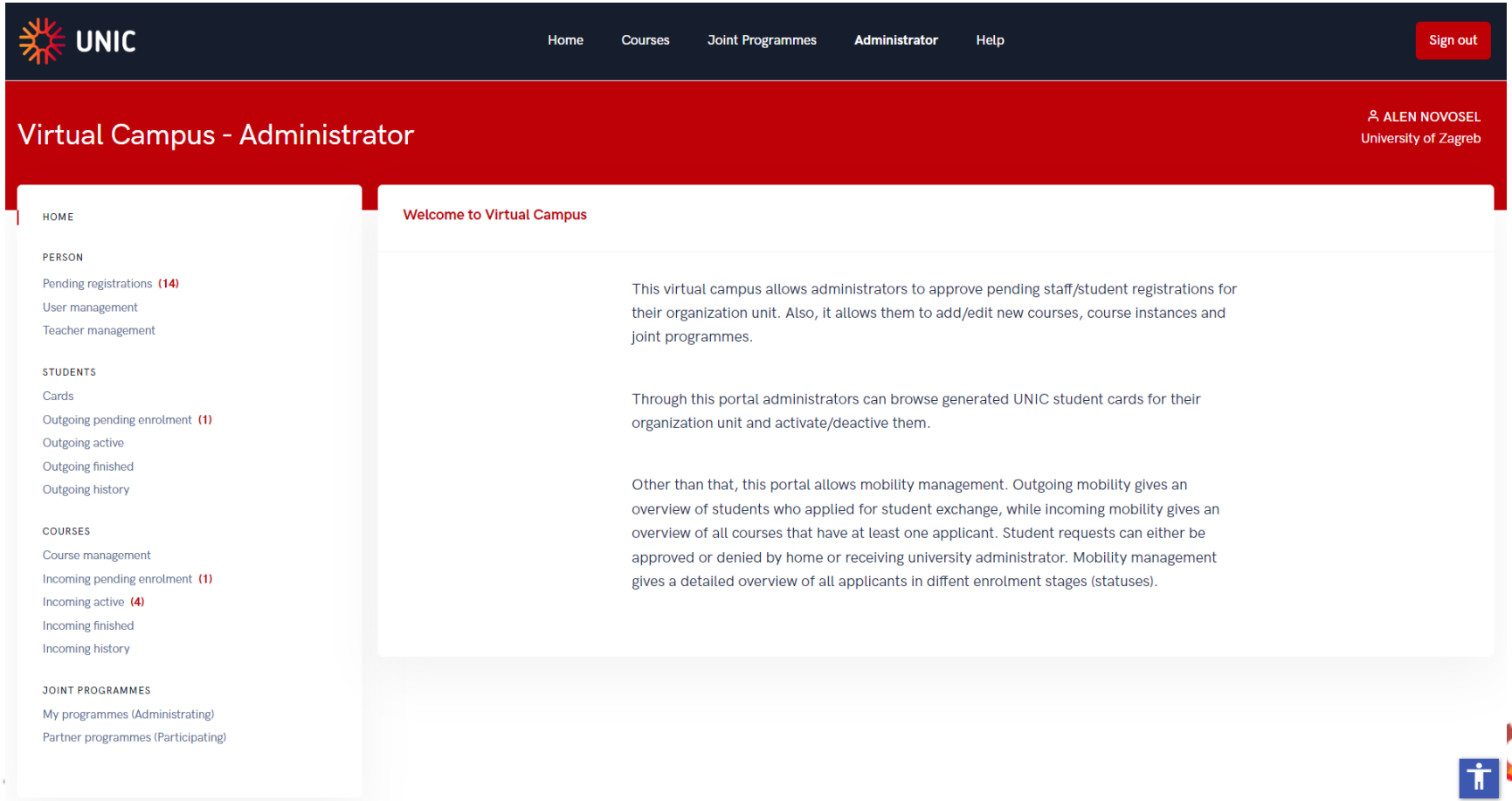
Course history – Finished courses



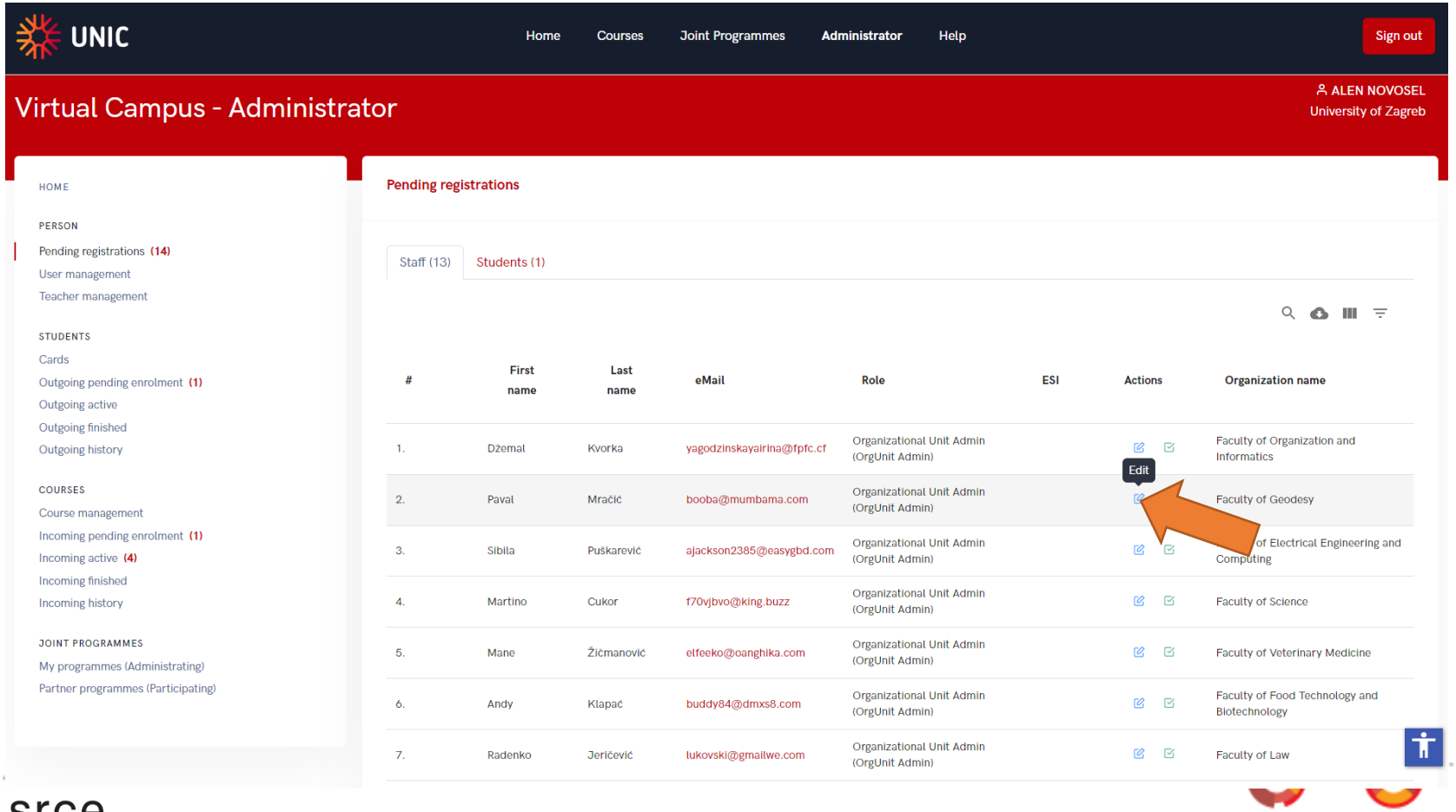
Course history – Unfinished courses



Admin portal



Person – Pending registrations (Staff)



#	First name	Last name	eMail	Role	ESI	Actions	Organization name
1.	Džemal	Kvorka	yagodzinskayairina@fpfc.cf	Organizational Unit Admin (OrgUnit Admin)			Faculty of Organization and Informatics
2.	Paval	Mračić	booba@mumbama.com	Organizational Unit Admin (OrgUnit Admin)			Faculty of Geodesy
3.	Sibila	Puškarević	ajackson2385@easygbd.com	Organizational Unit Admin (OrgUnit Admin)			of Electrical Engineering and Computing
4.	Martino	Cukor	f70vjbvo@king.buzz	Organizational Unit Admin (OrgUnit Admin)			Faculty of Science
5.	Mane	Žičmanović	elfeeko@oanghika.com	Organizational Unit Admin (OrgUnit Admin)			Faculty of Veterinary Medicine
6.	Andy	Klapač	buddy84@dmxs8.com	Organizational Unit Admin (OrgUnit Admin)			Faculty of Food Technology and Biotechnology
7.	Radenko	Jerićević	lukovski@gmailwe.com	Organizational Unit Admin (OrgUnit Admin)			Faculty of Law

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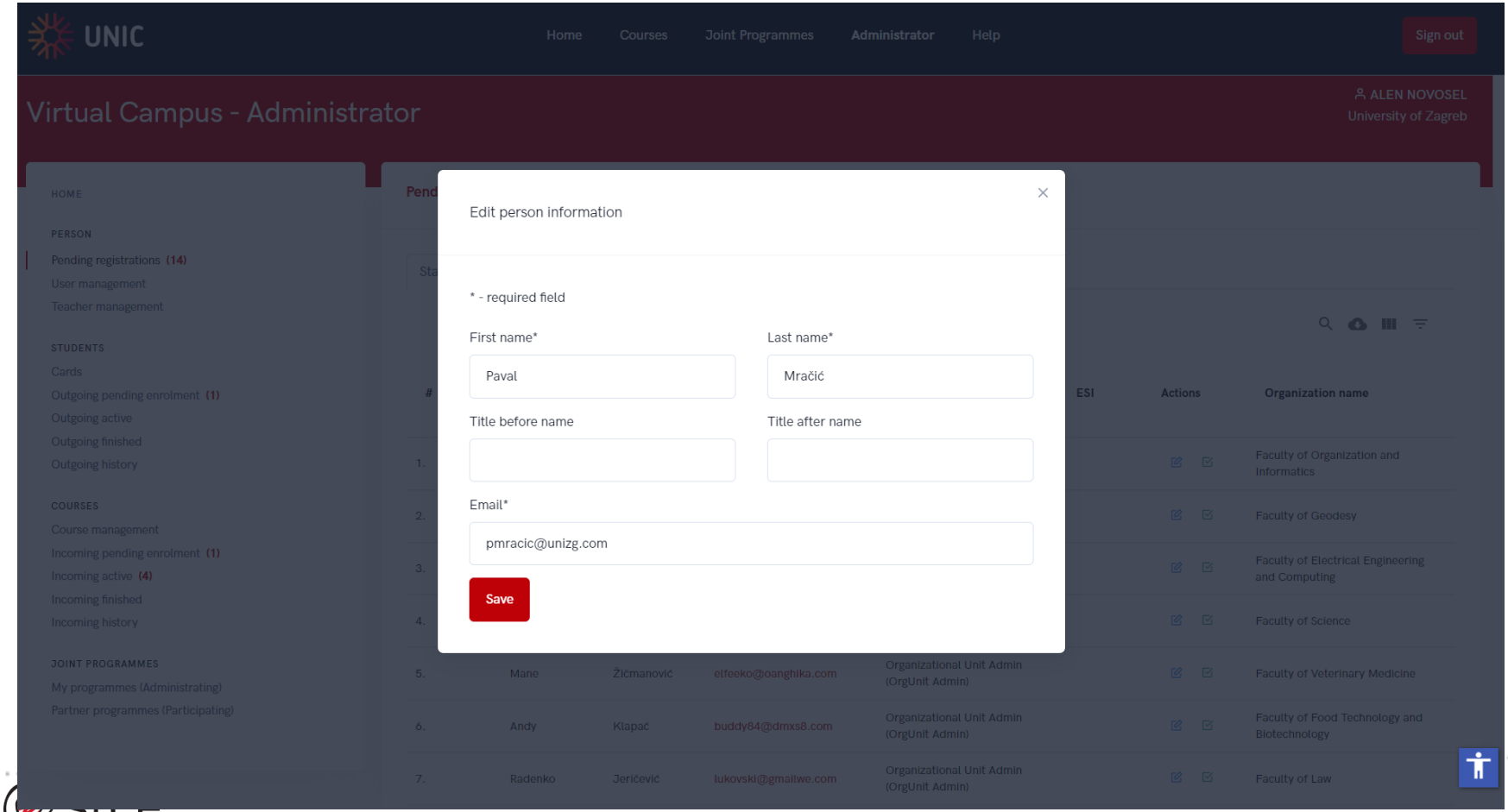
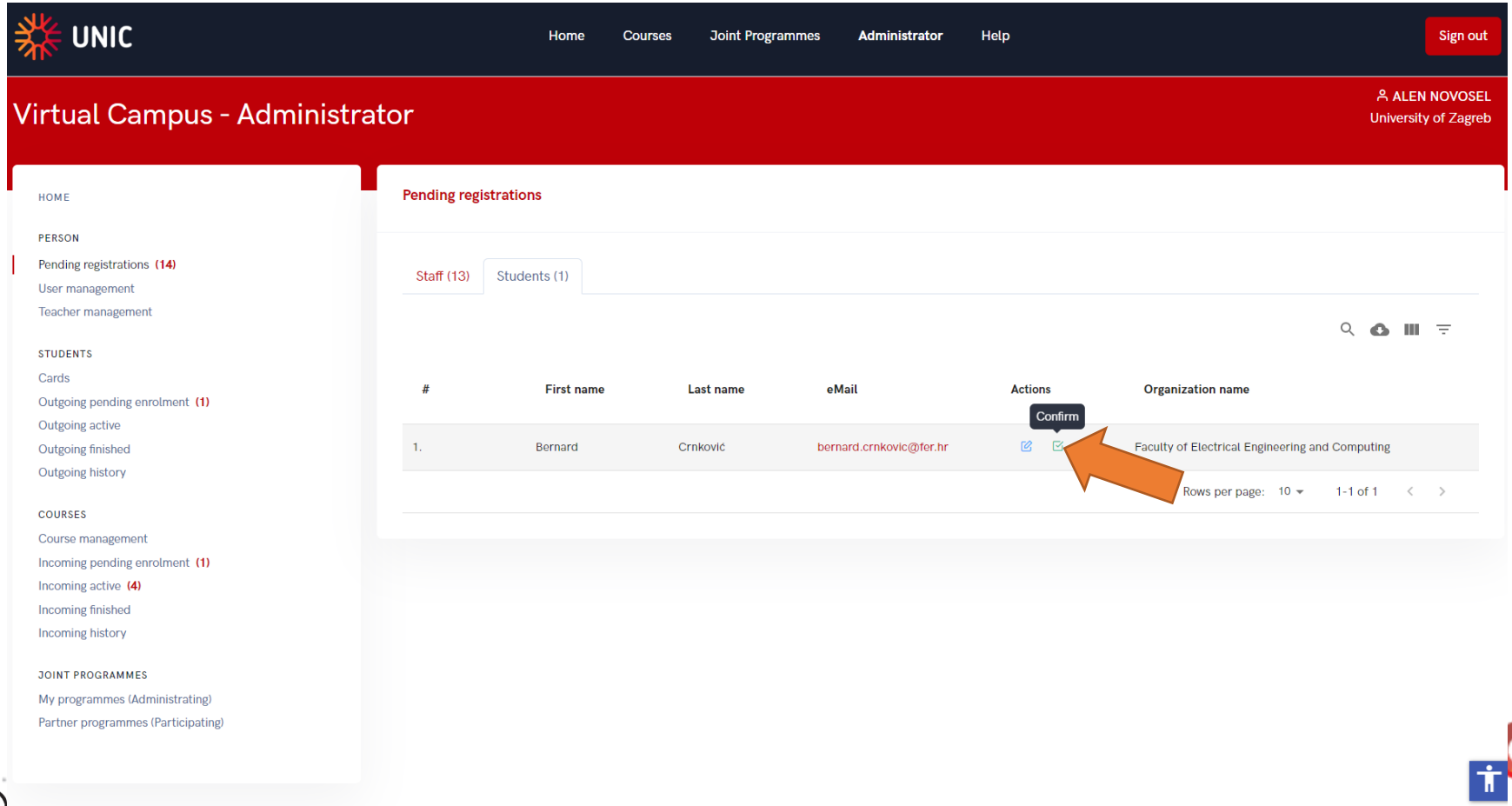
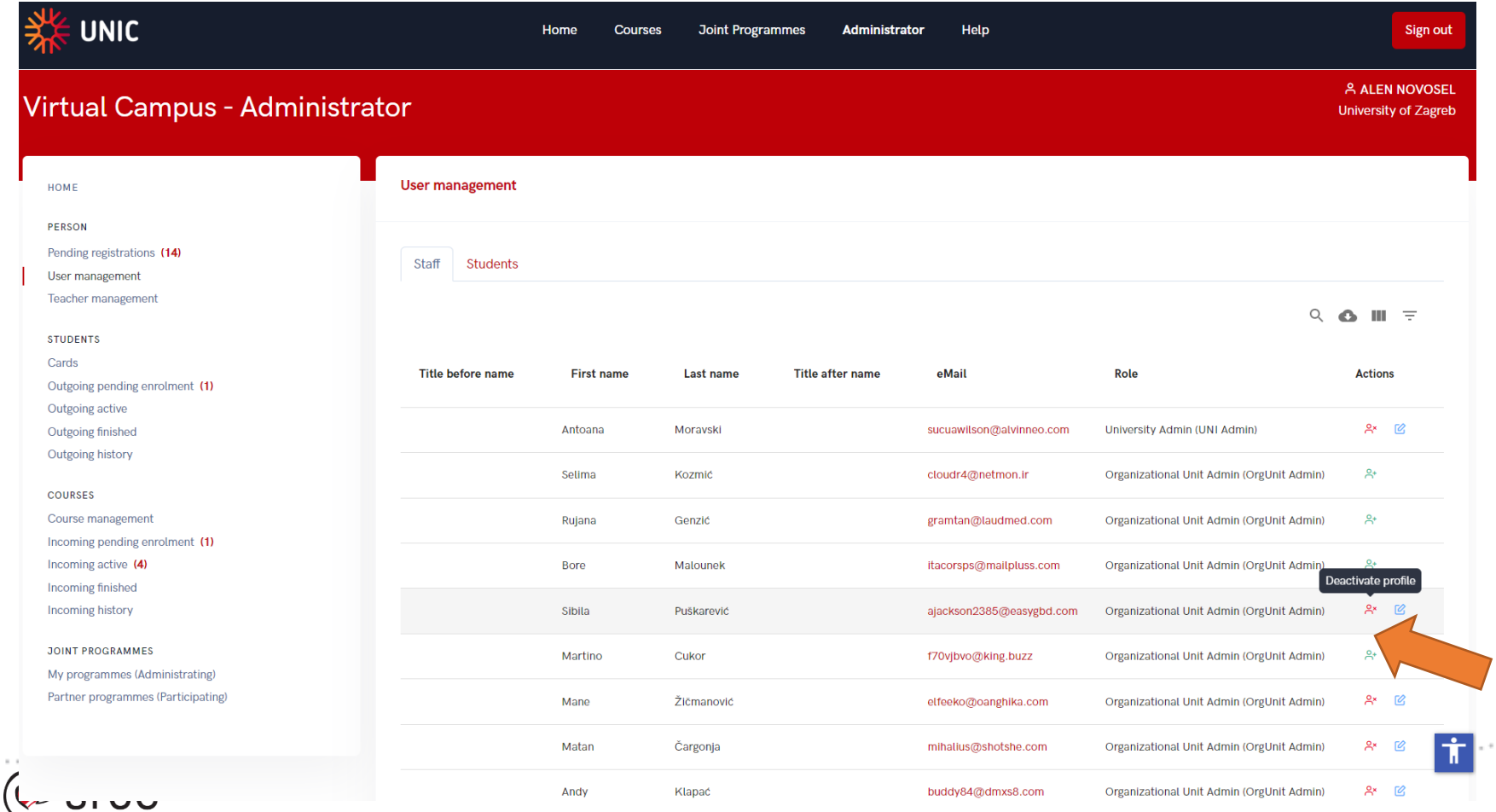
Person – Pending registrations (Staff)



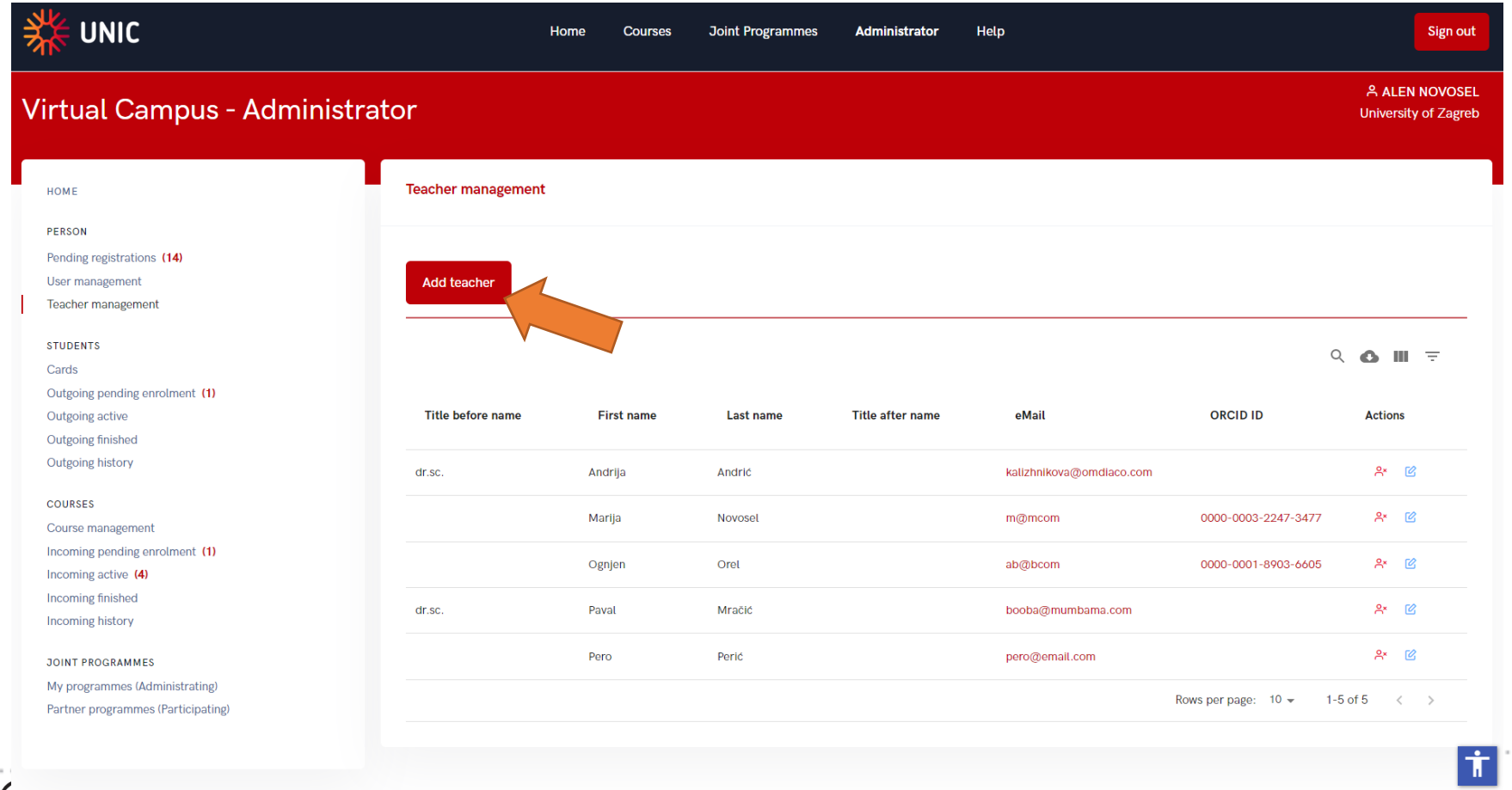
Person – Pending registrations (Students)



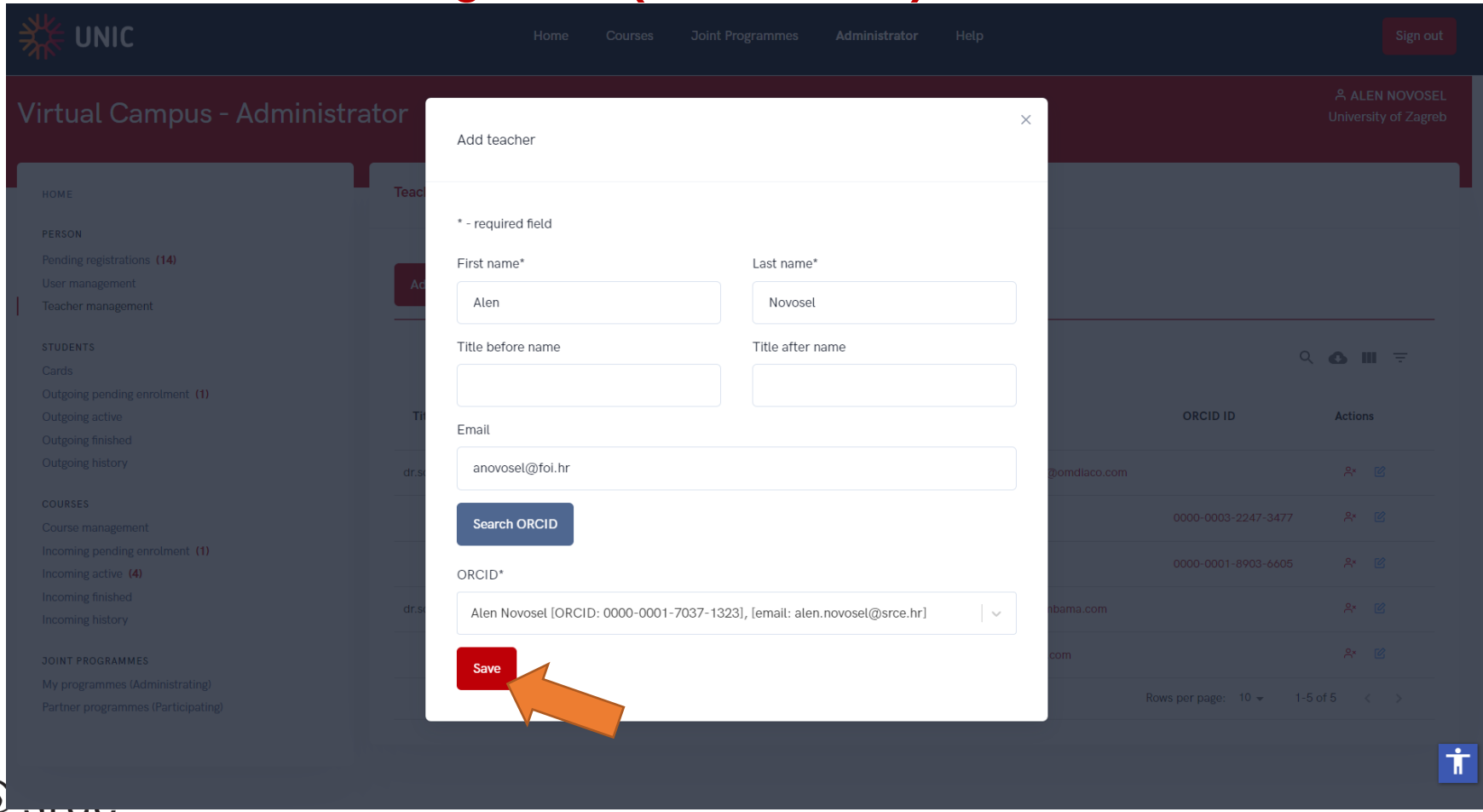
Person – User management (activate/deactivate profile)



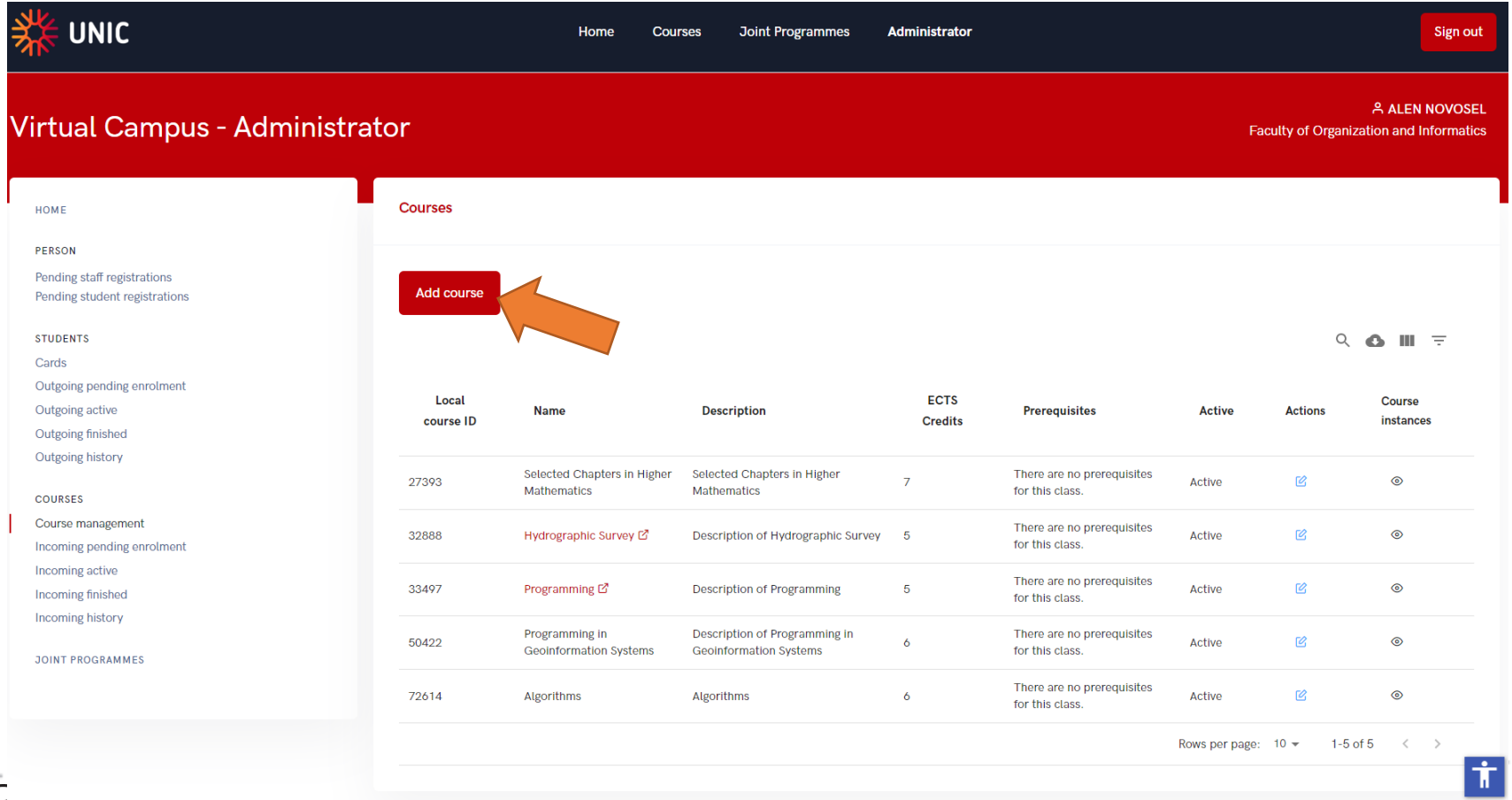
Person – Teacher management



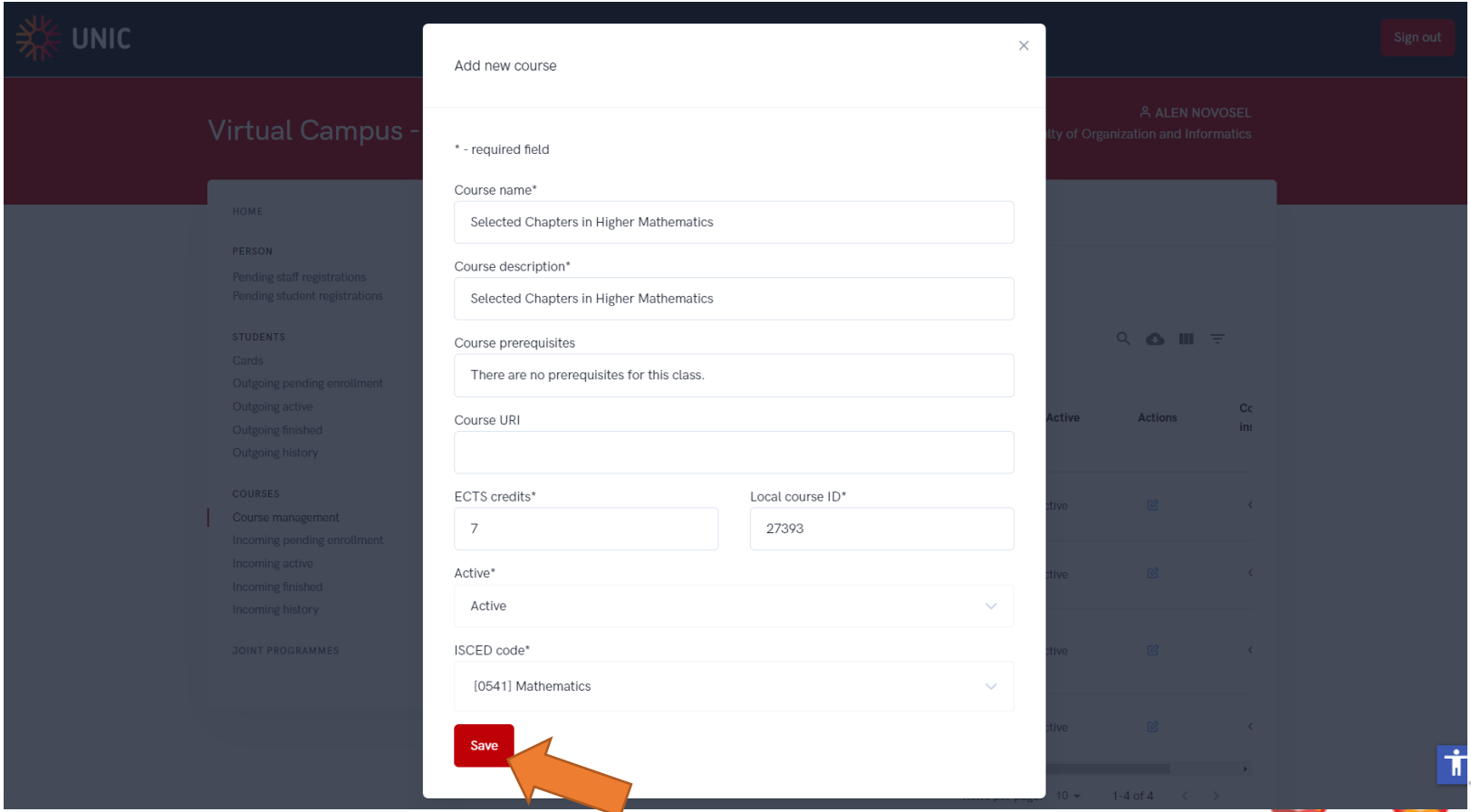
Person – Teacher management (Add teacher)



Course management



Course management – add new



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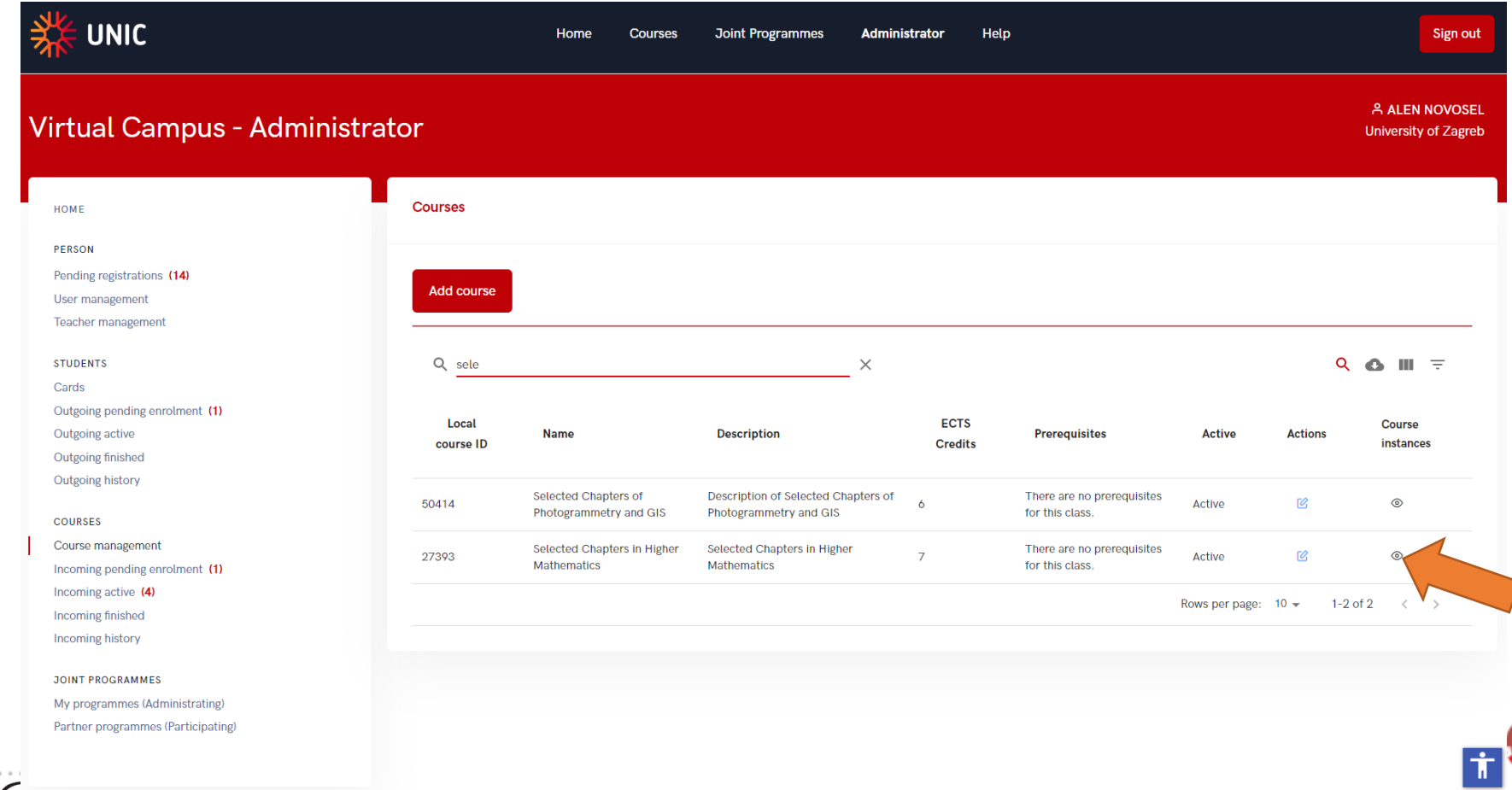
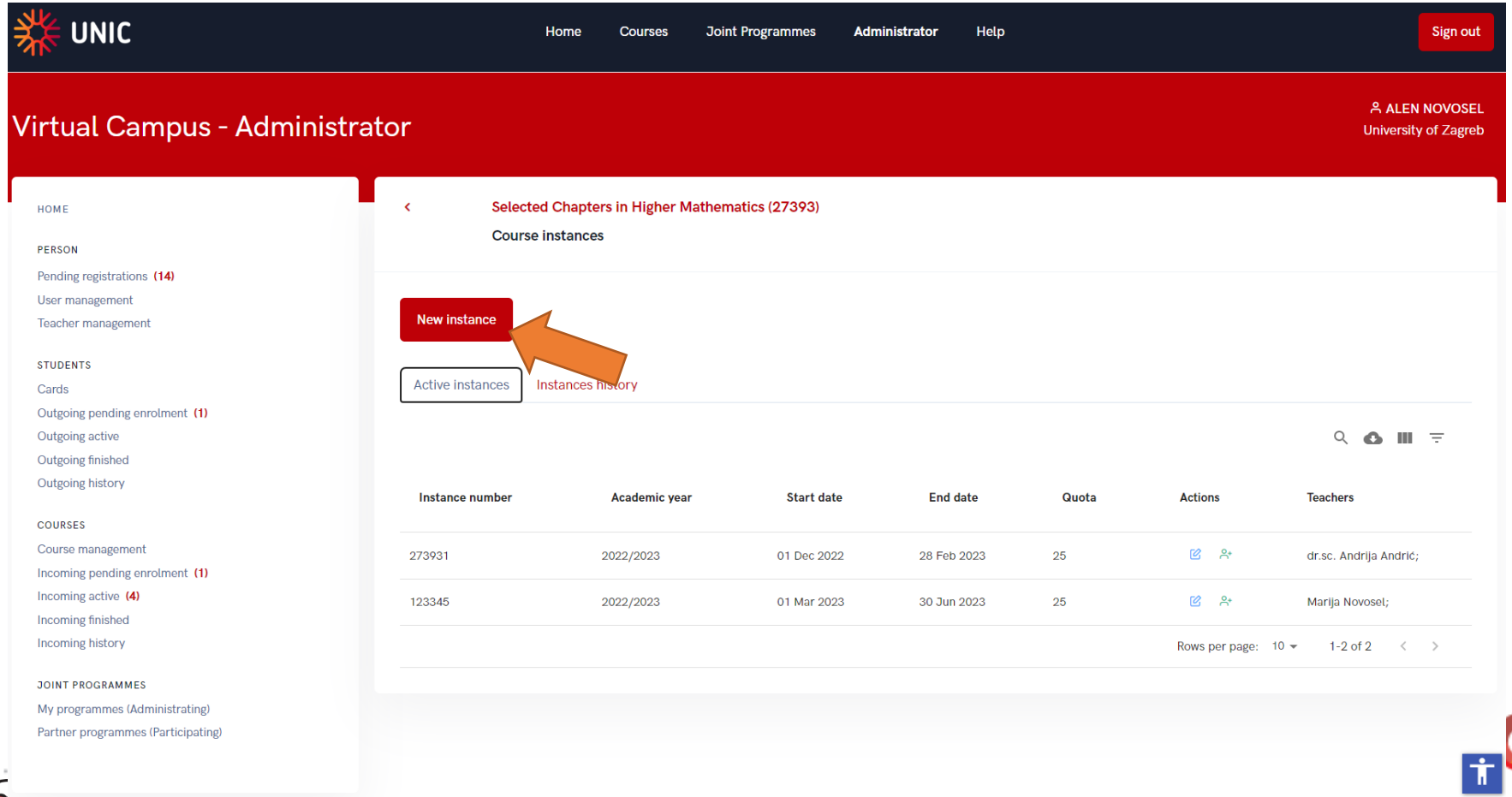
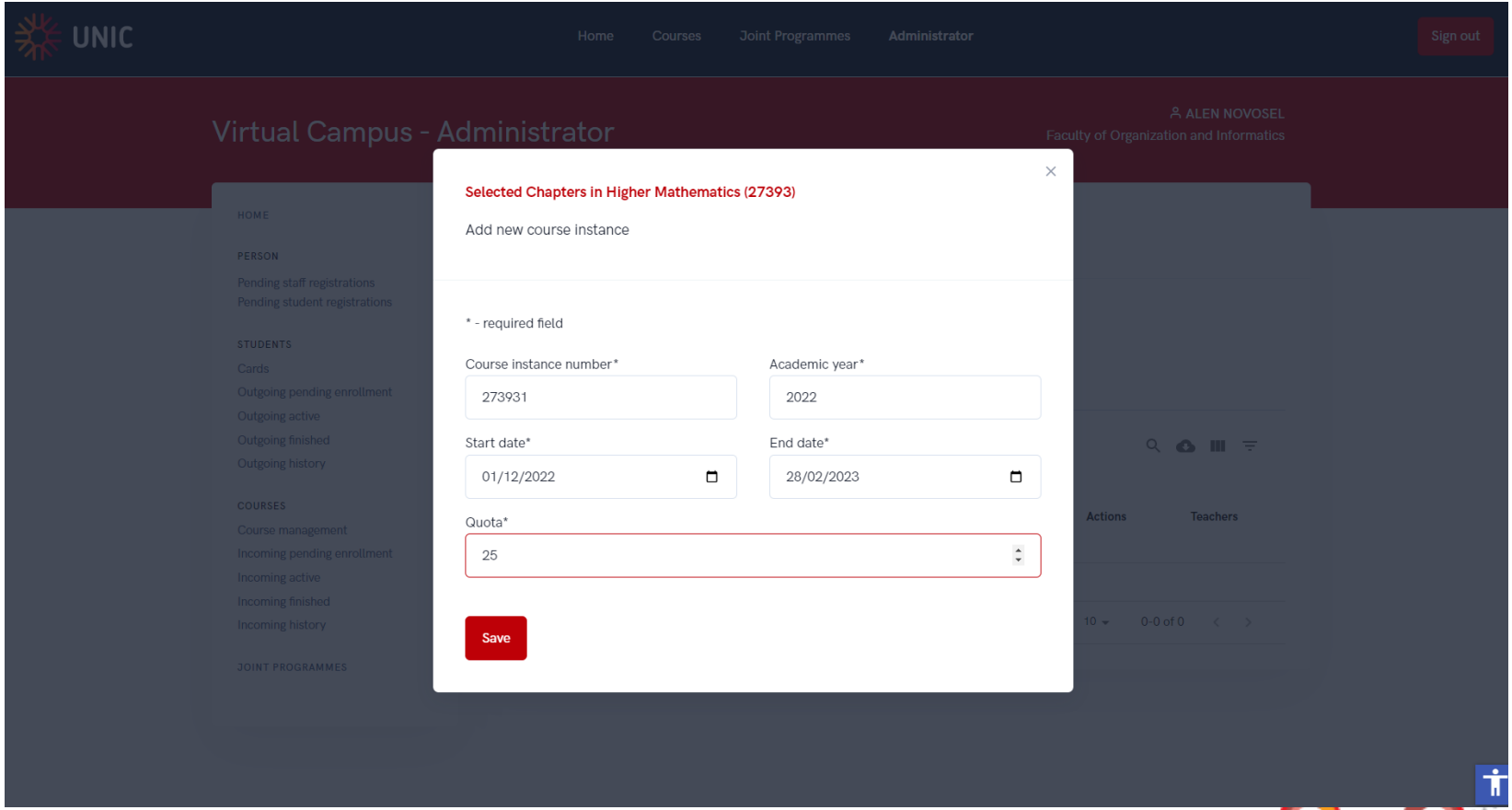
Course management – Course instances



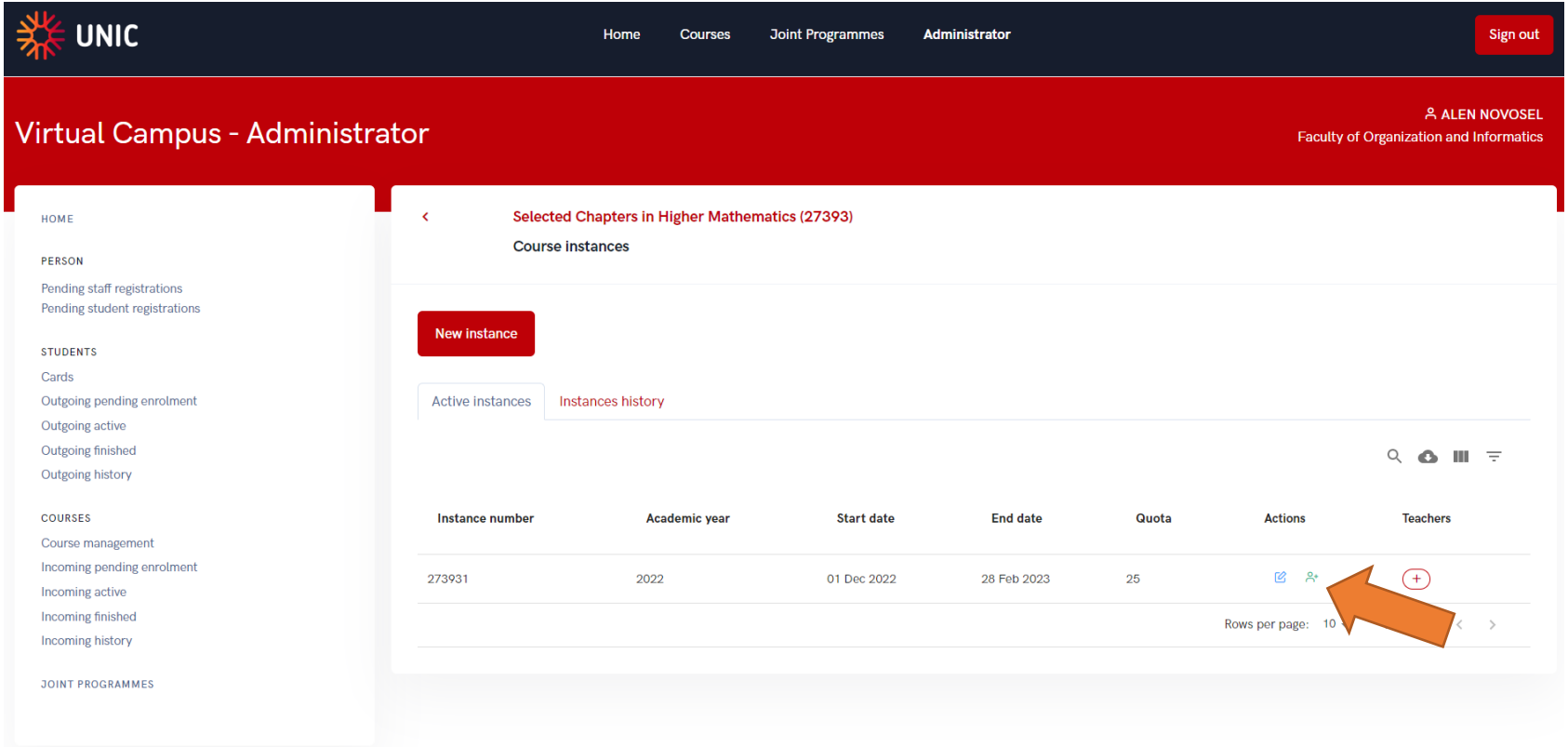
Course instances



Course instances – add new



Course instance – add teacher



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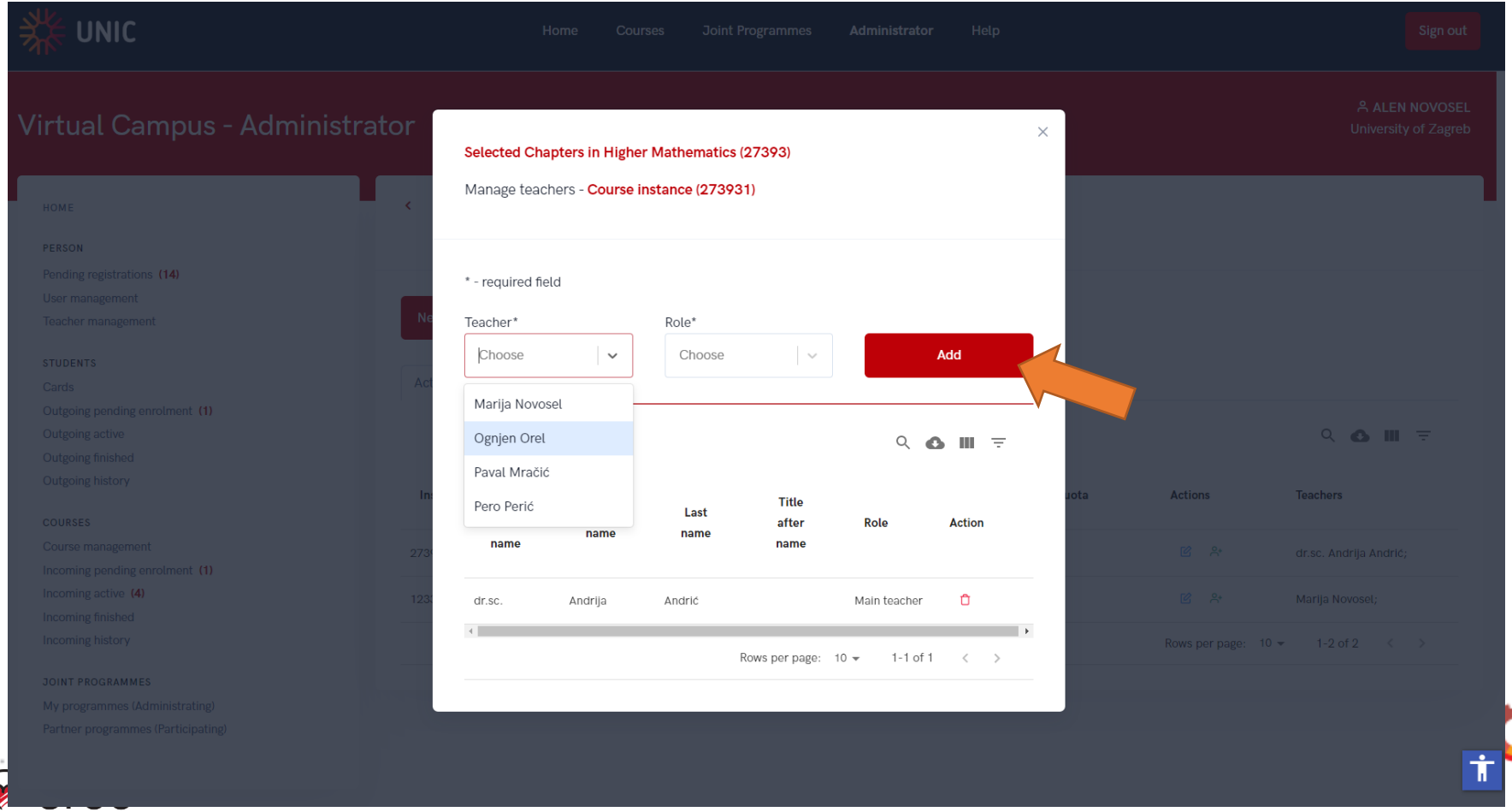
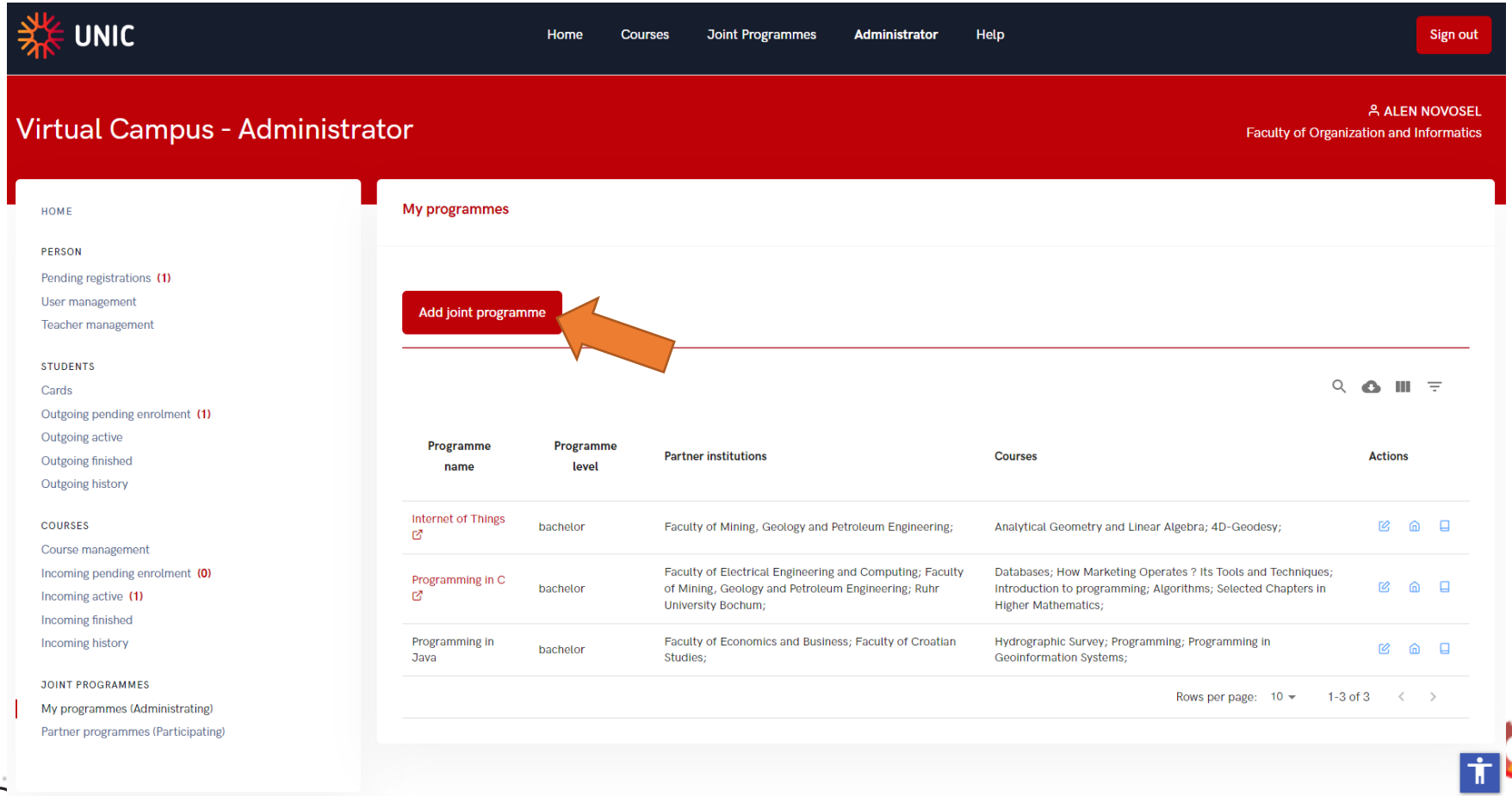
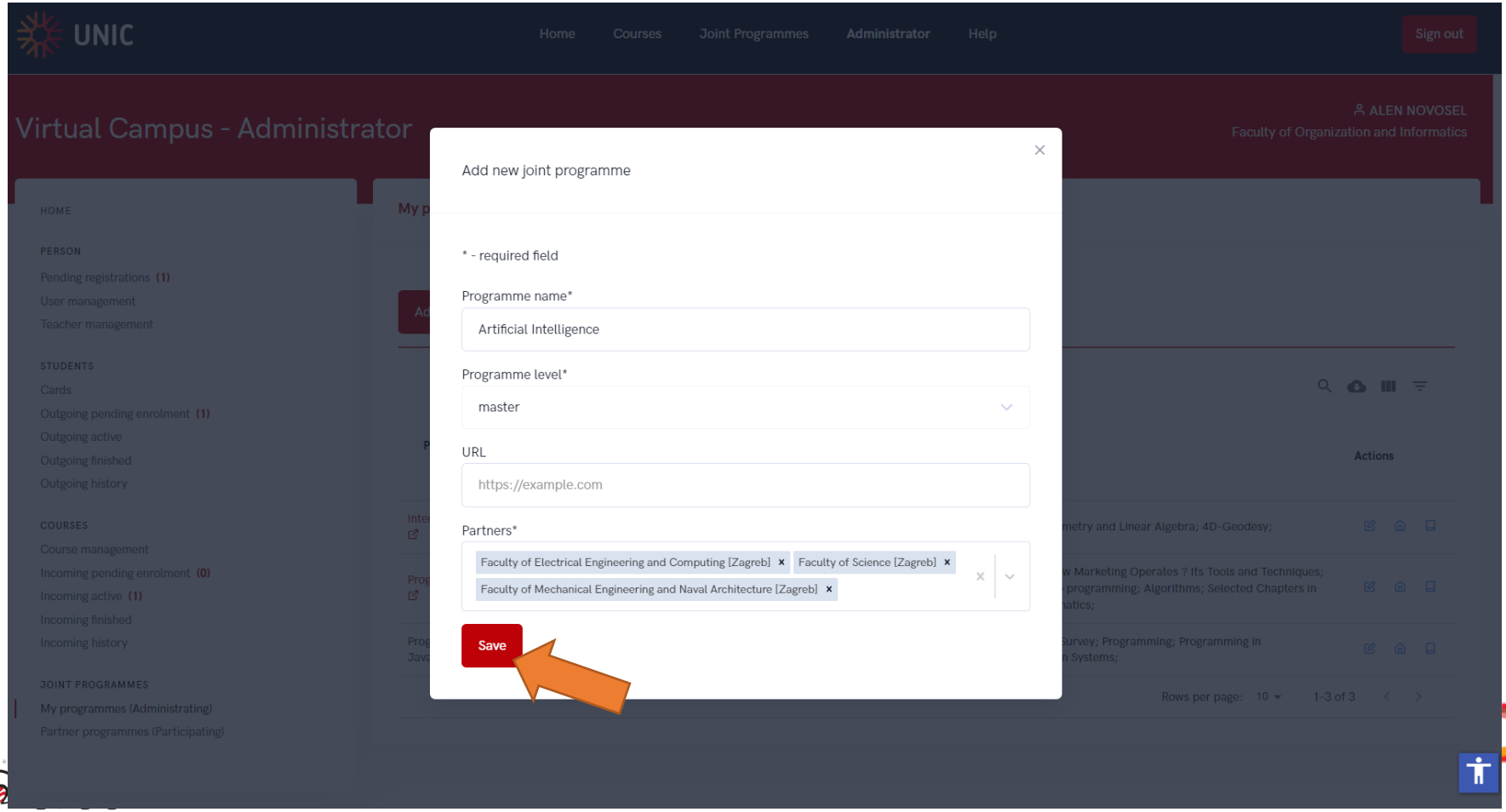
Course instance – add teacher



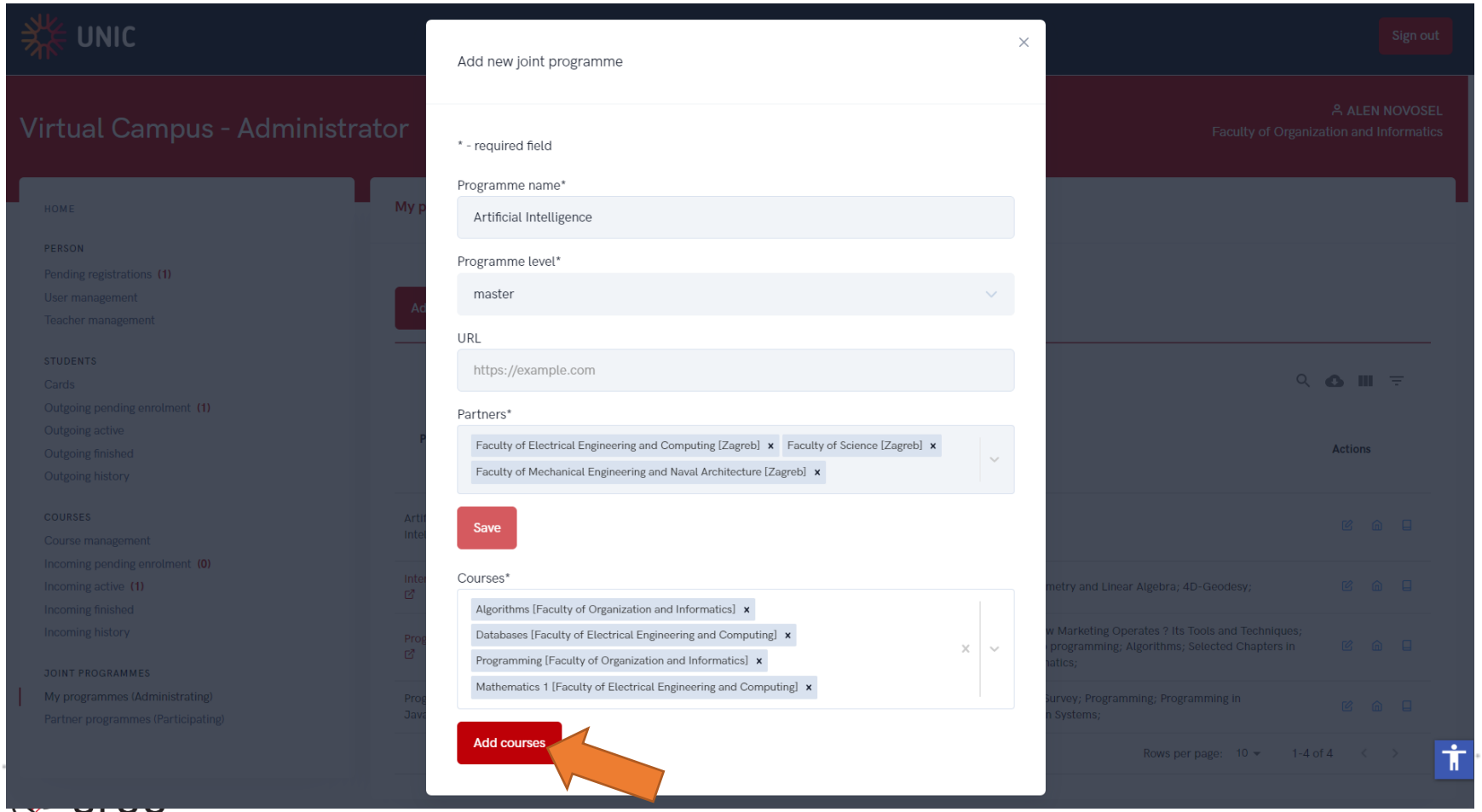
Joint programmes – adminstration



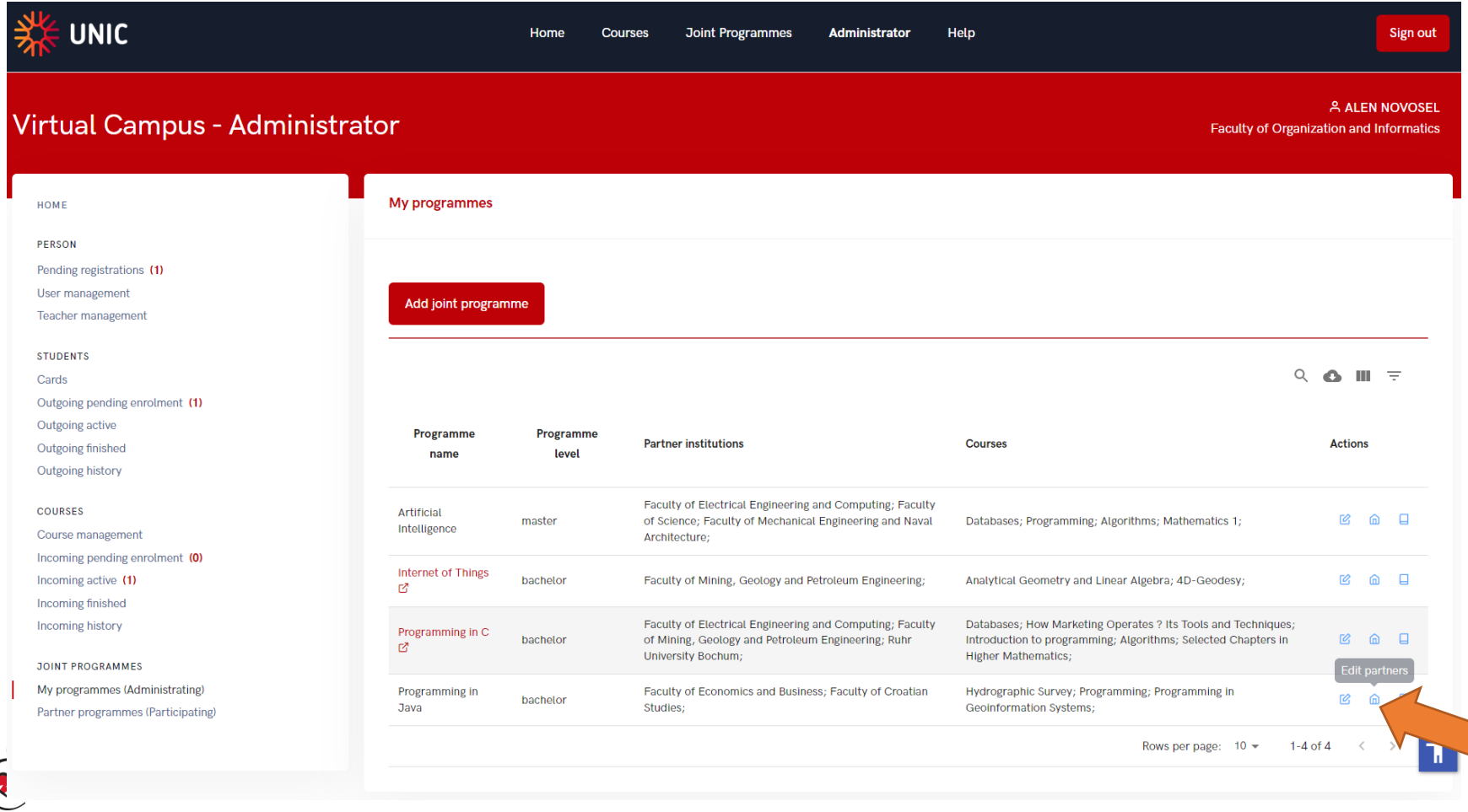
Joint programmes – add new



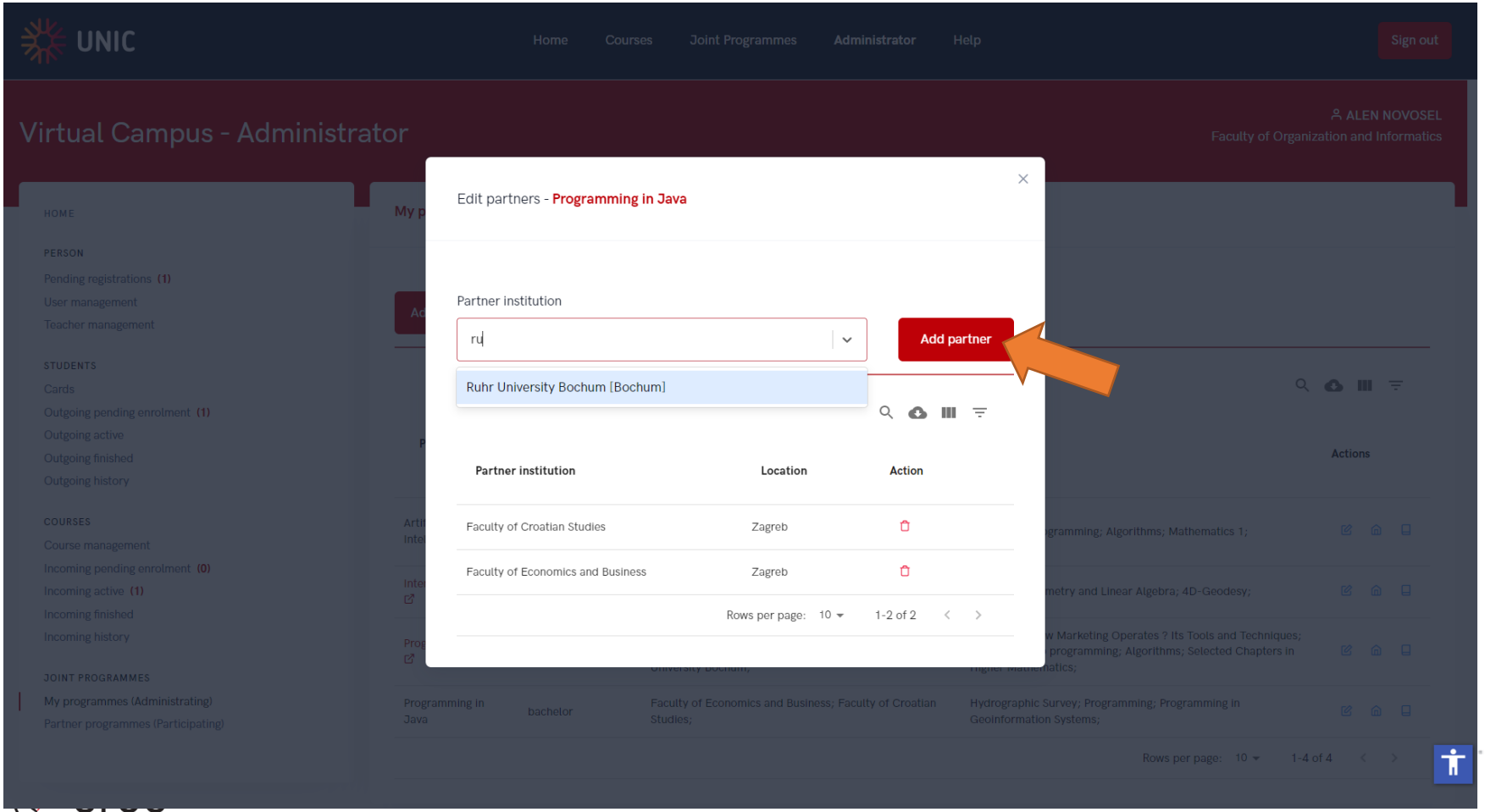
Joint programmes – add new



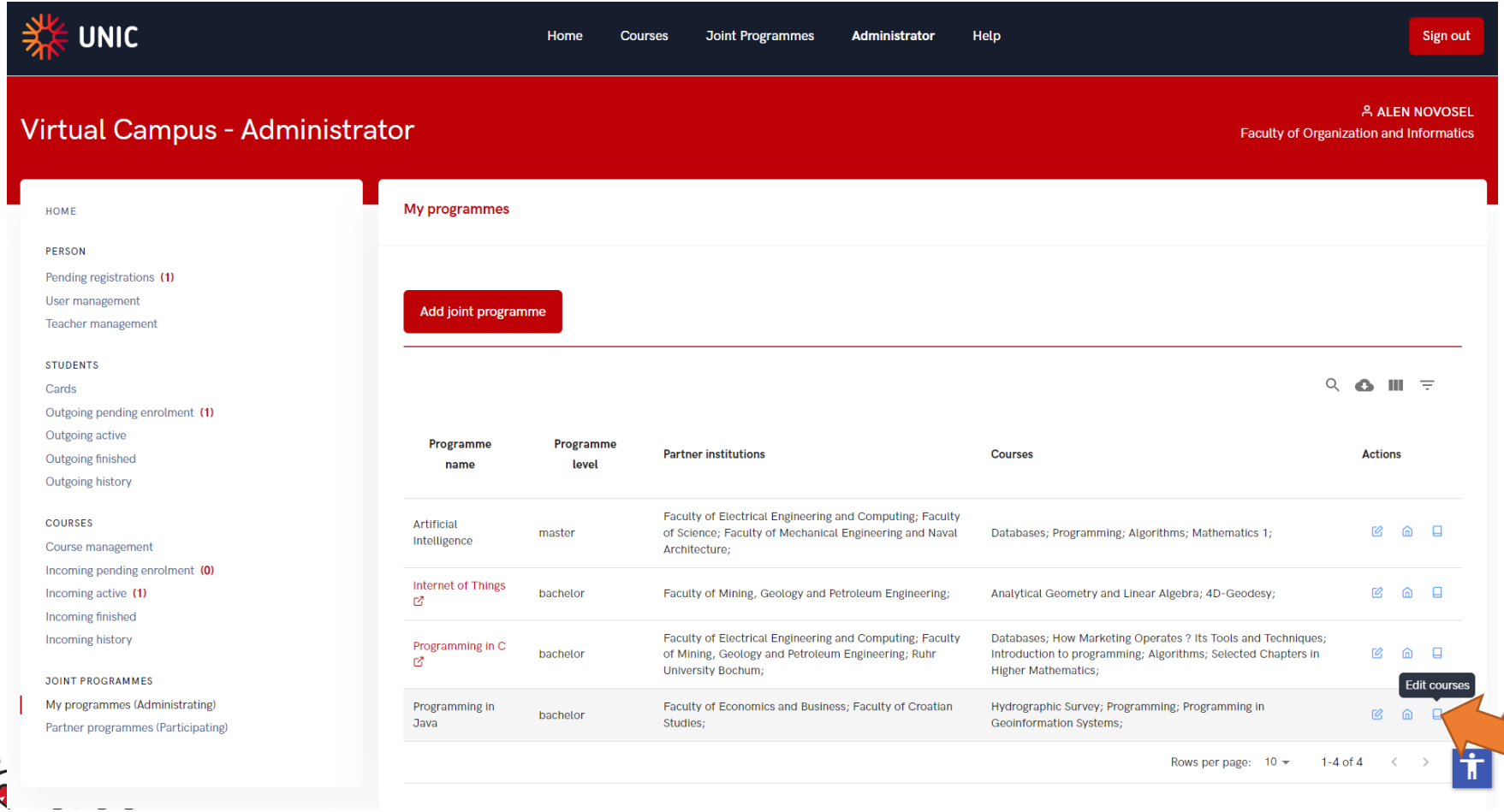
Joint programmes – edit partners



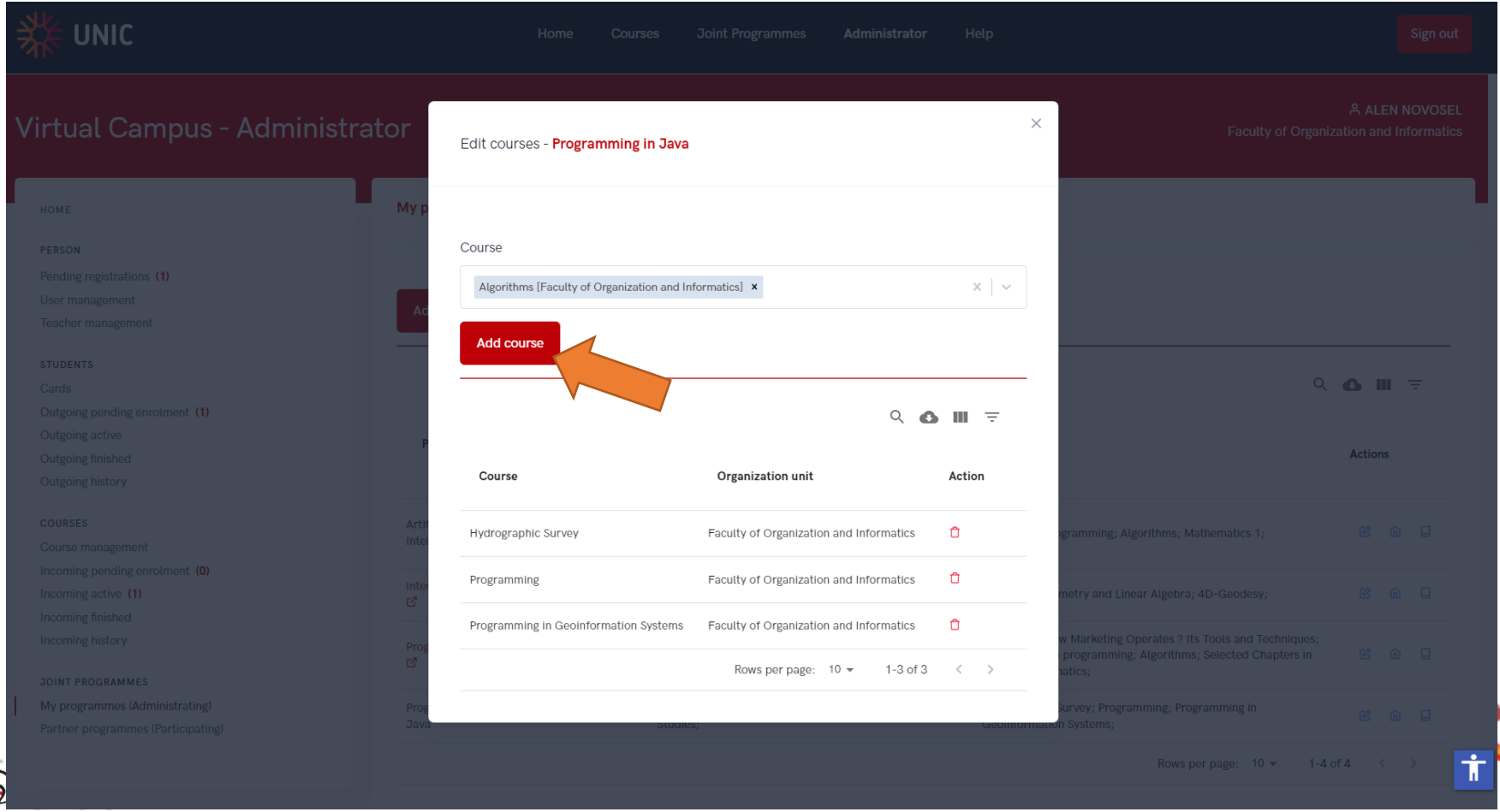
Joint programmes – edit partners



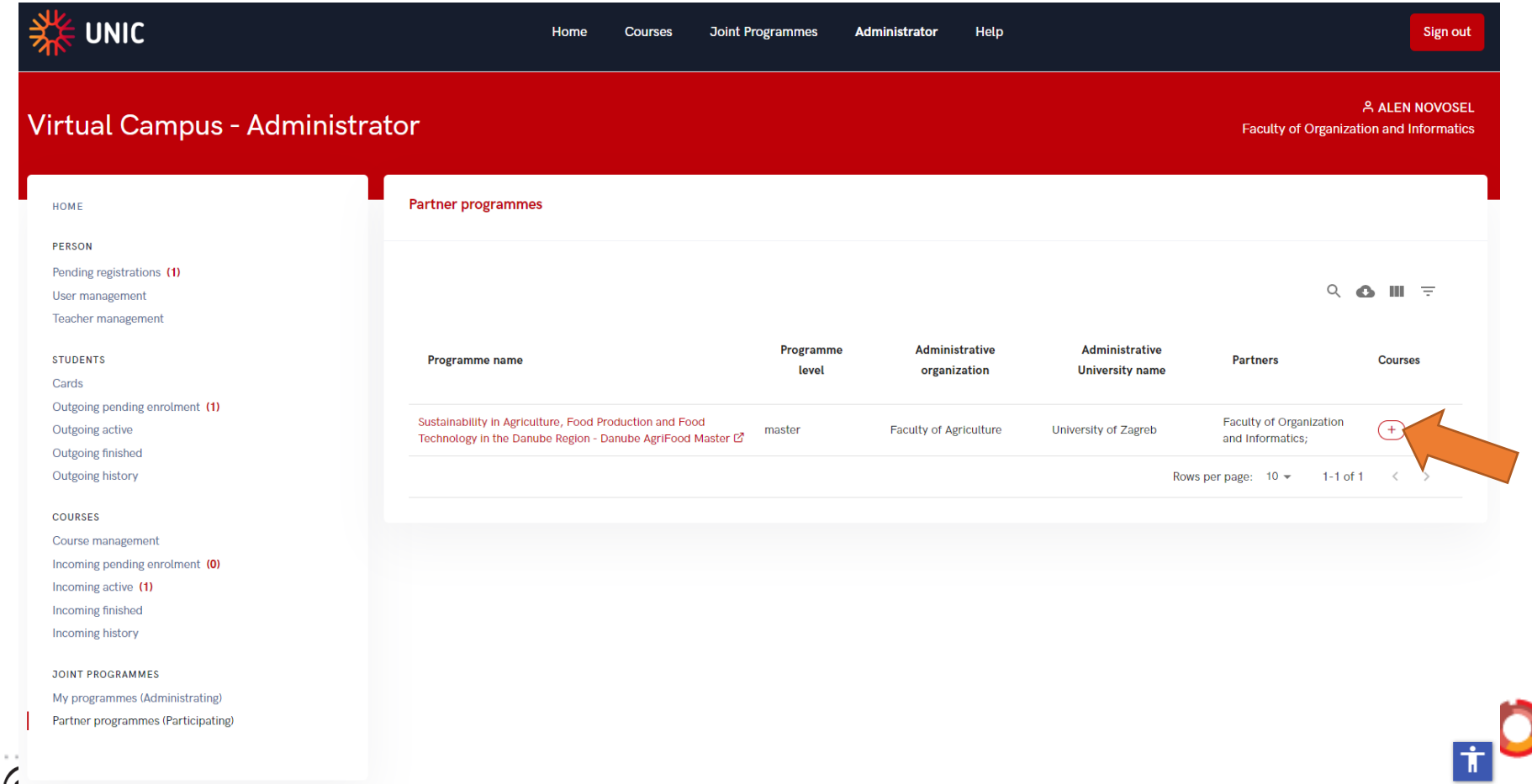
Joint programmes – edit courses



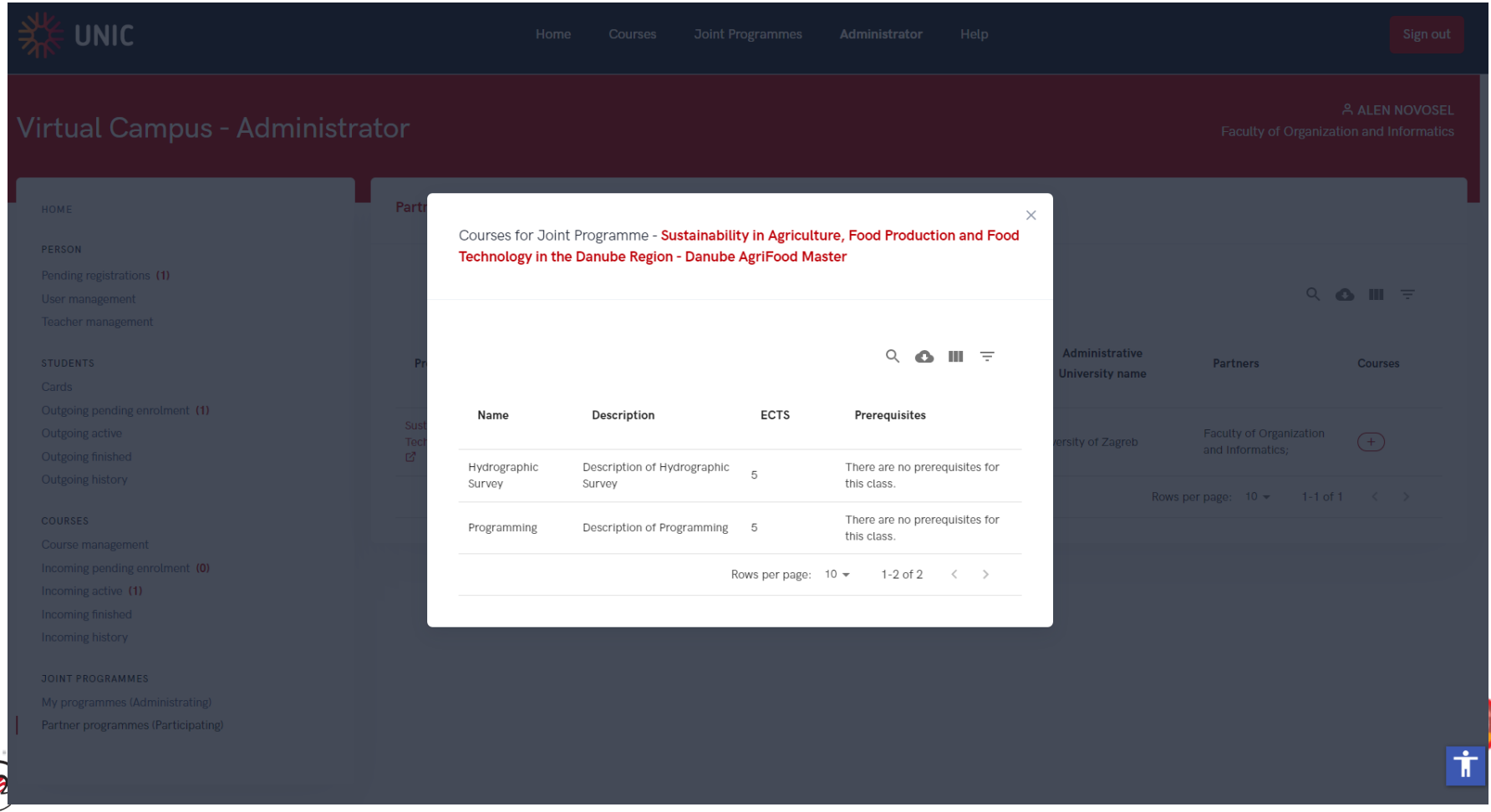
Joint programmes – edit courses



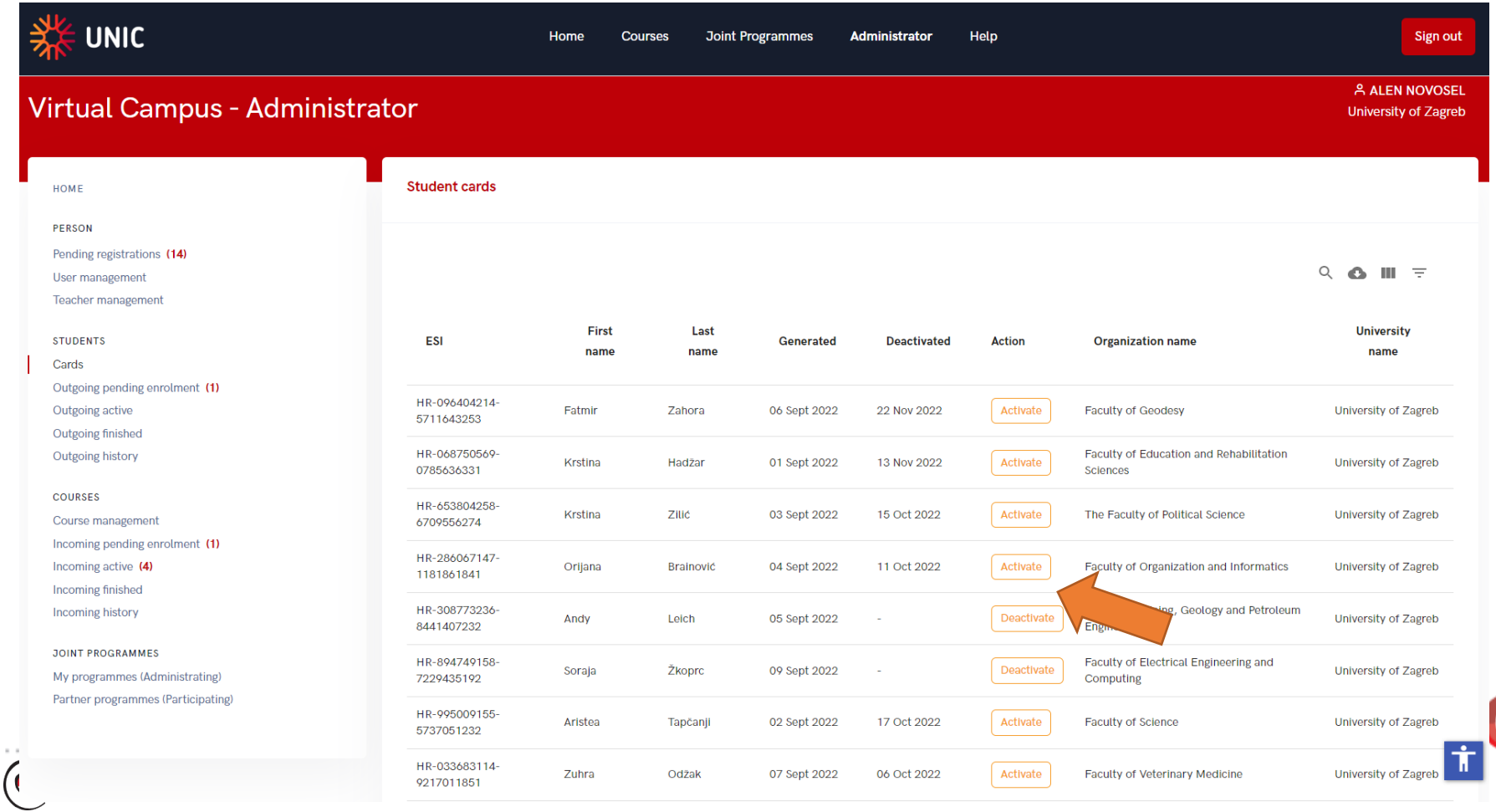
Joint programmes – participation



Joint programmes – participation



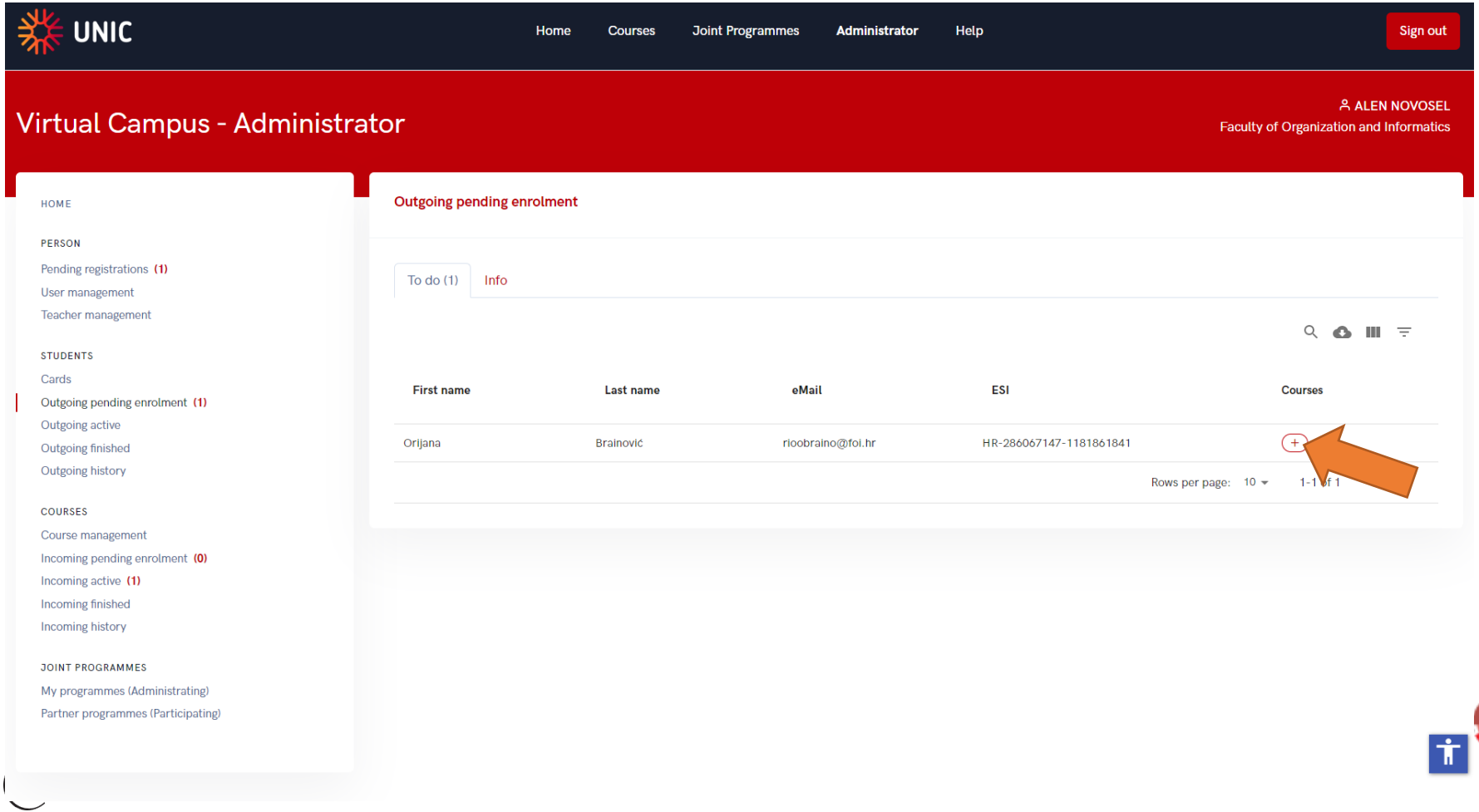
Student cards (activation/deactivation)



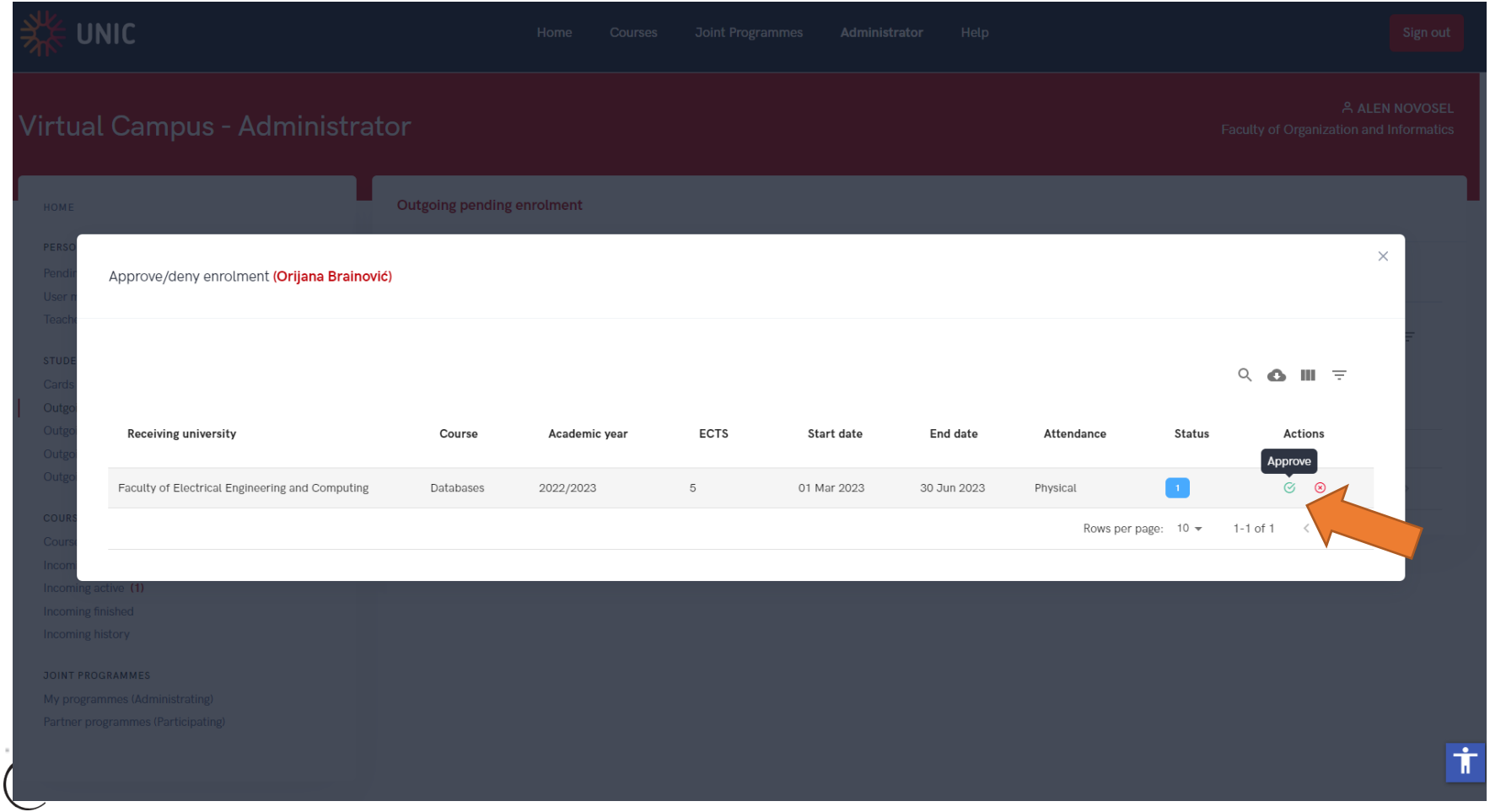
Mobility – Course statuses

Id	Status name
1	Applied (Student)
2	Approved (home UNI)
3	Denied (home UNI)
4	Approved (receiving UNI)
5	Denied (receiving UNI)
6	Dropped off (Student)
7	Enrolled
8	Completed/Passed

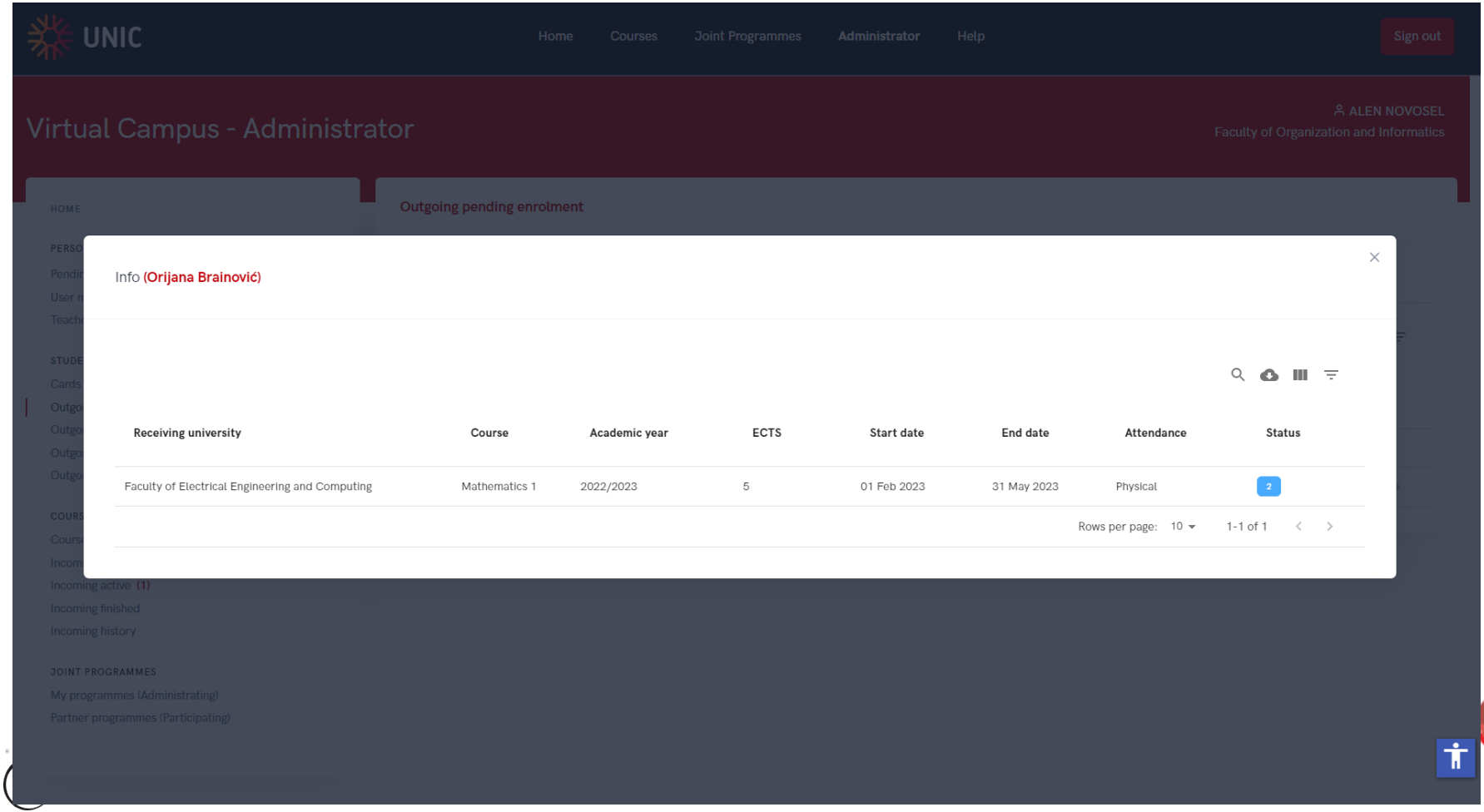
Outgoing Mobility – pending



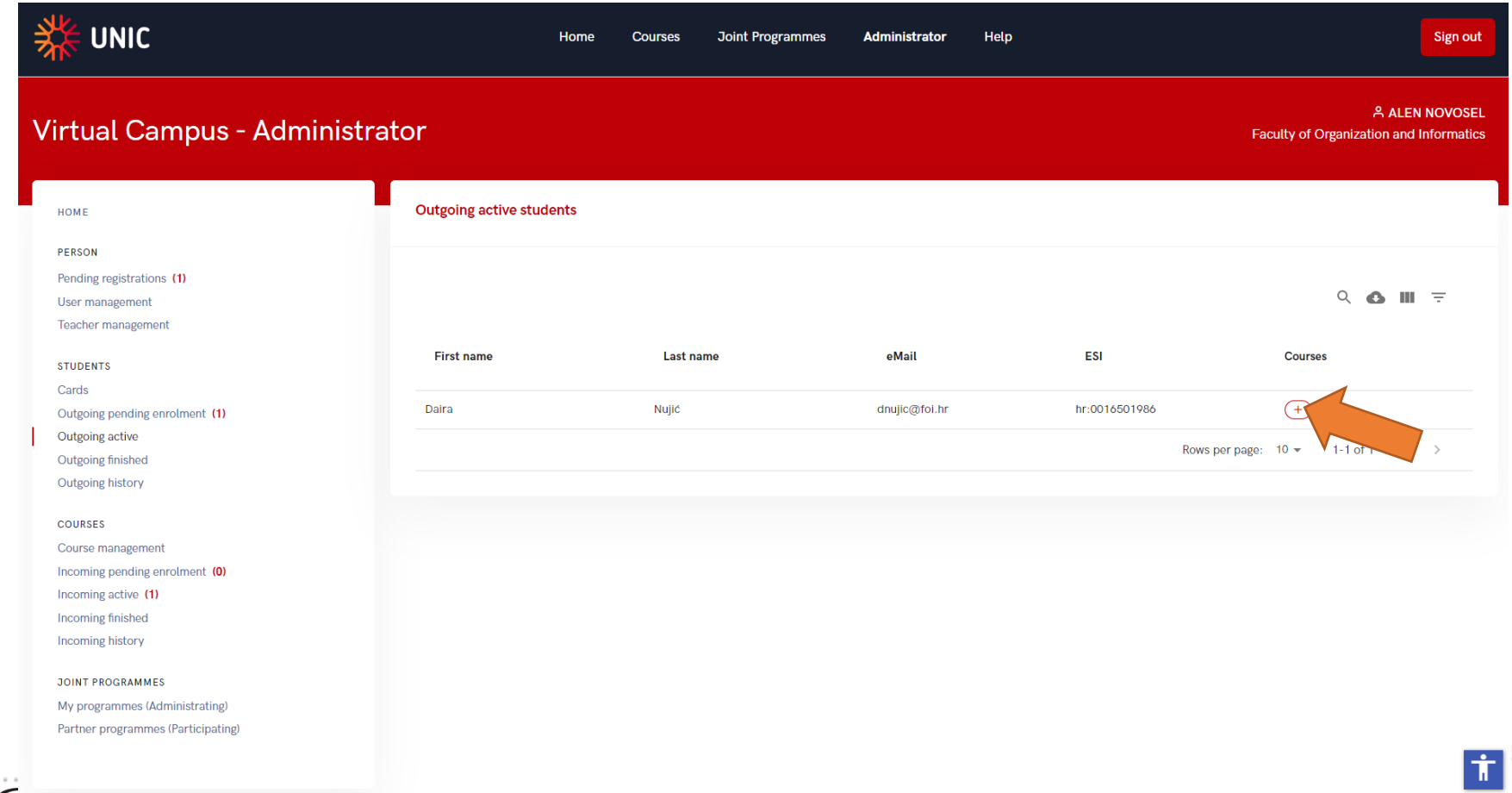
Outgoing Mobility – pending



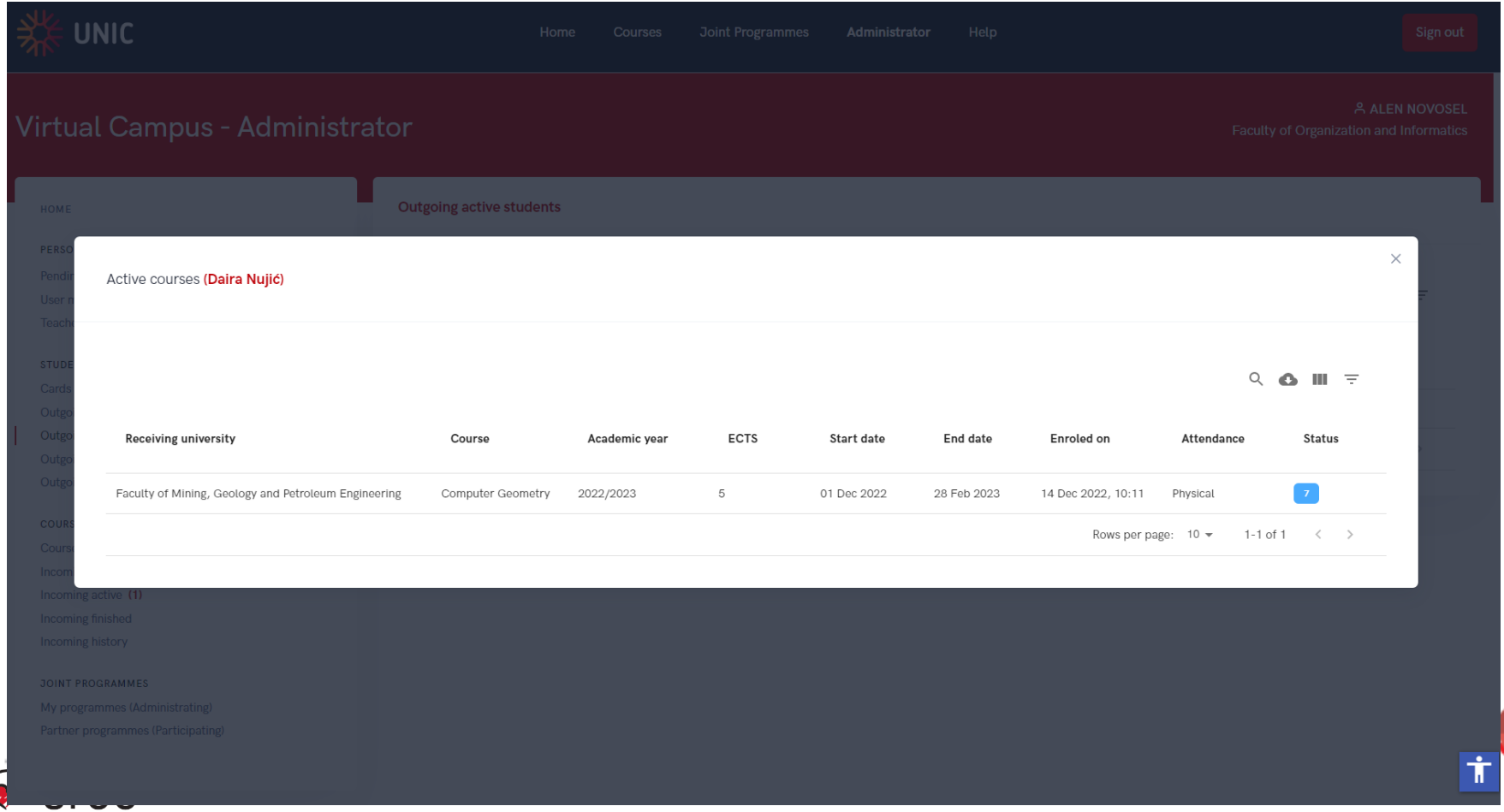
Outgoing Mobility – pending



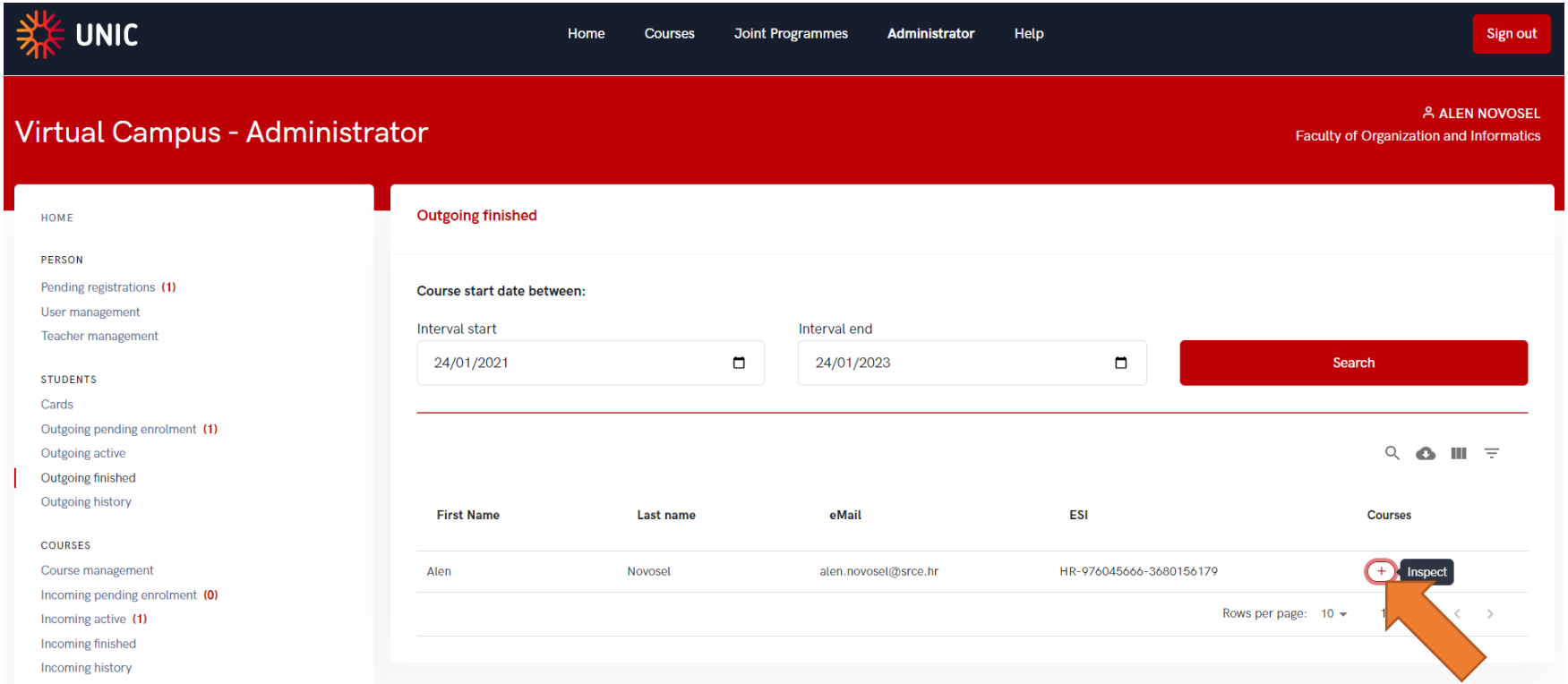
Outgoing Mobility – active



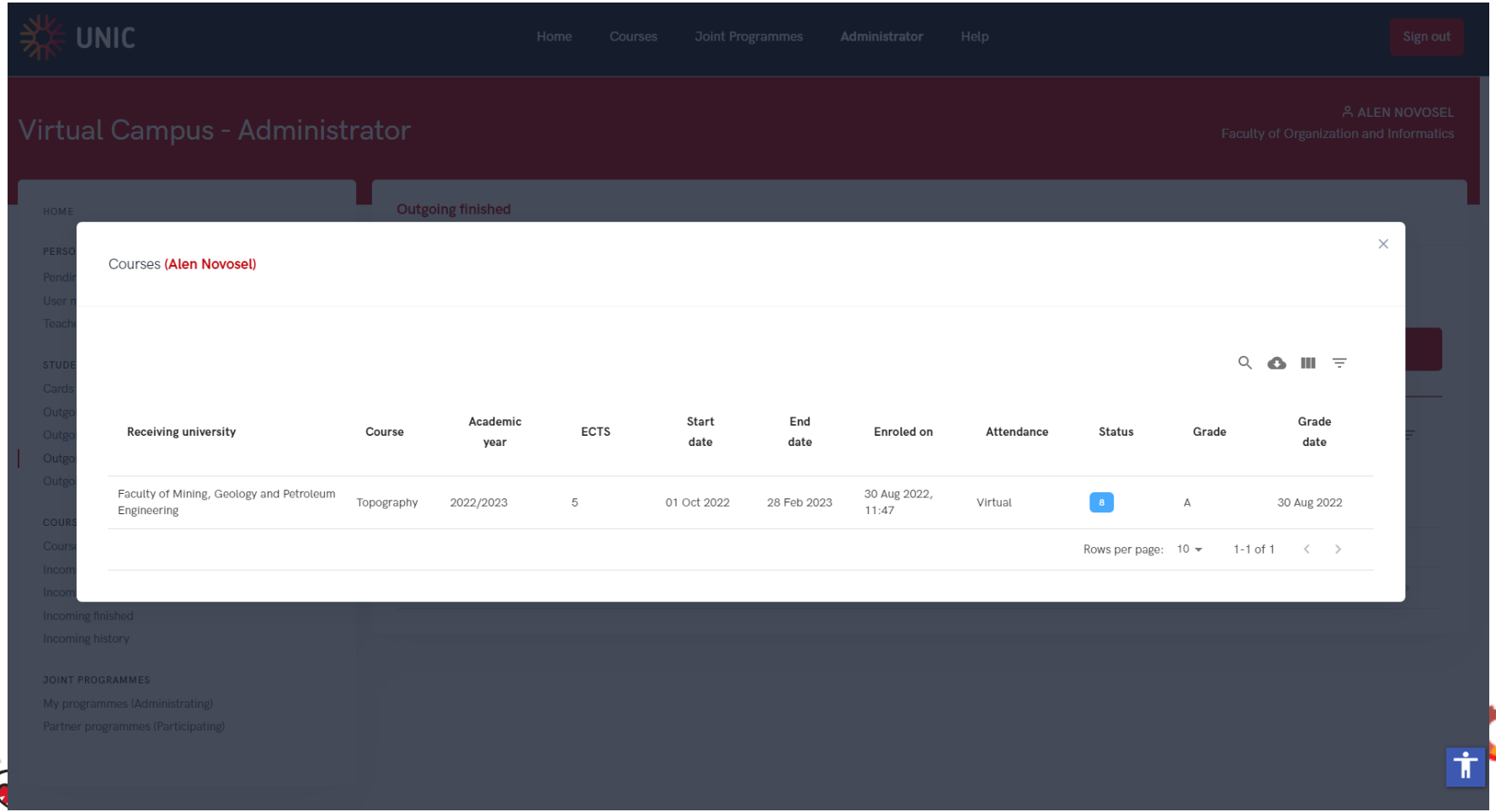
Outgoing Mobility – active



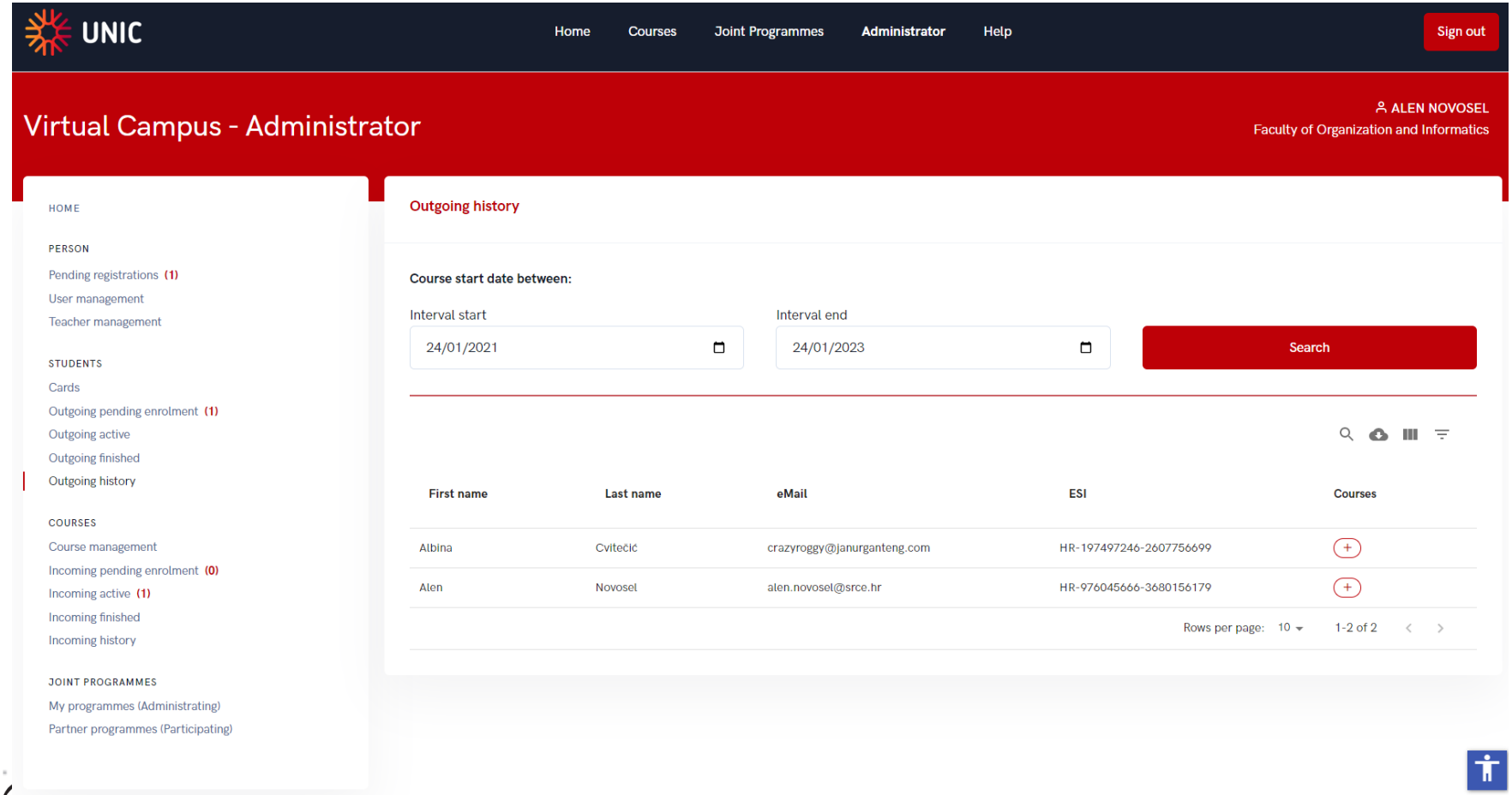
Outgoing Mobility – finished



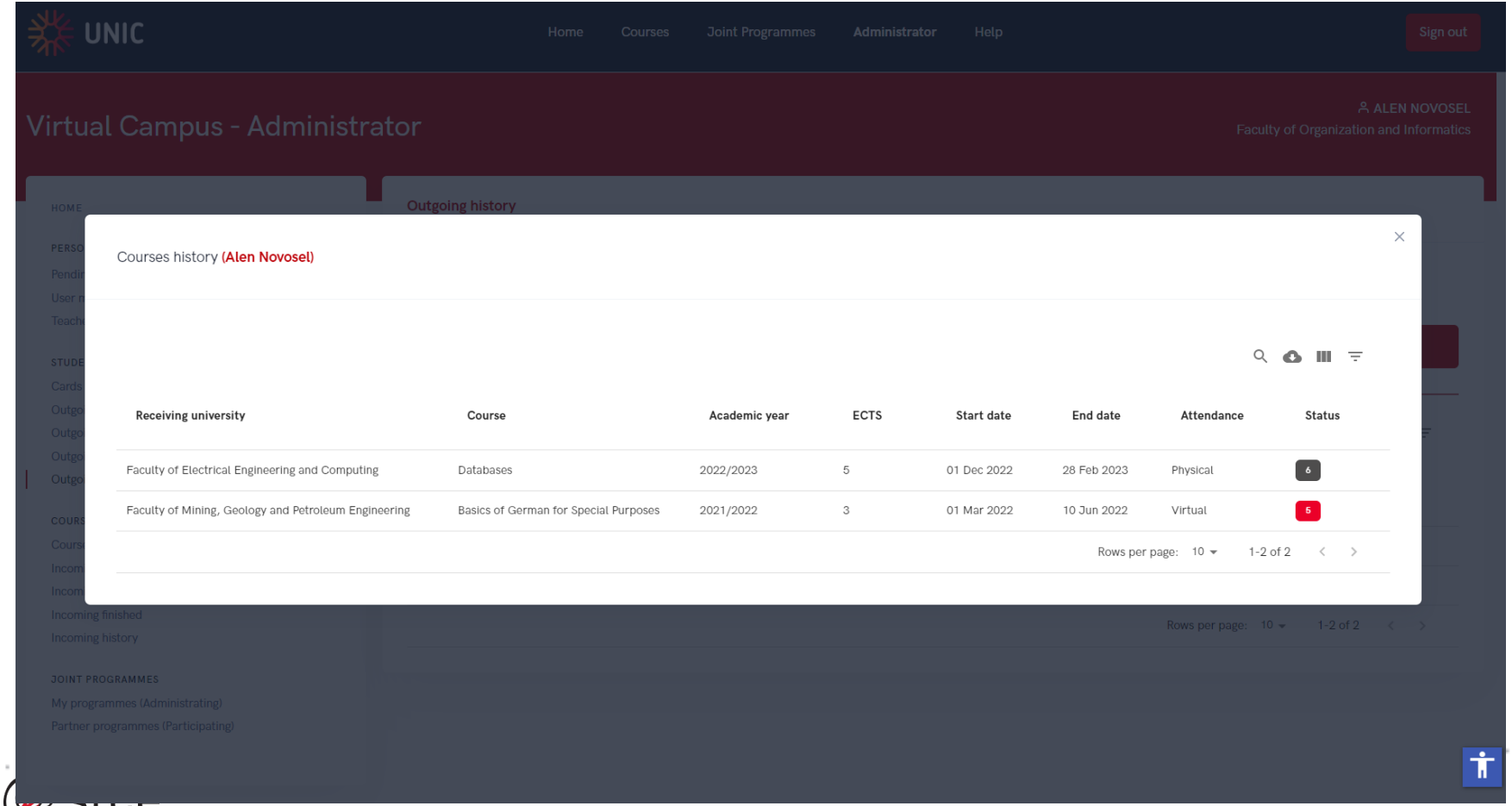
Outgoing Mobility – finished



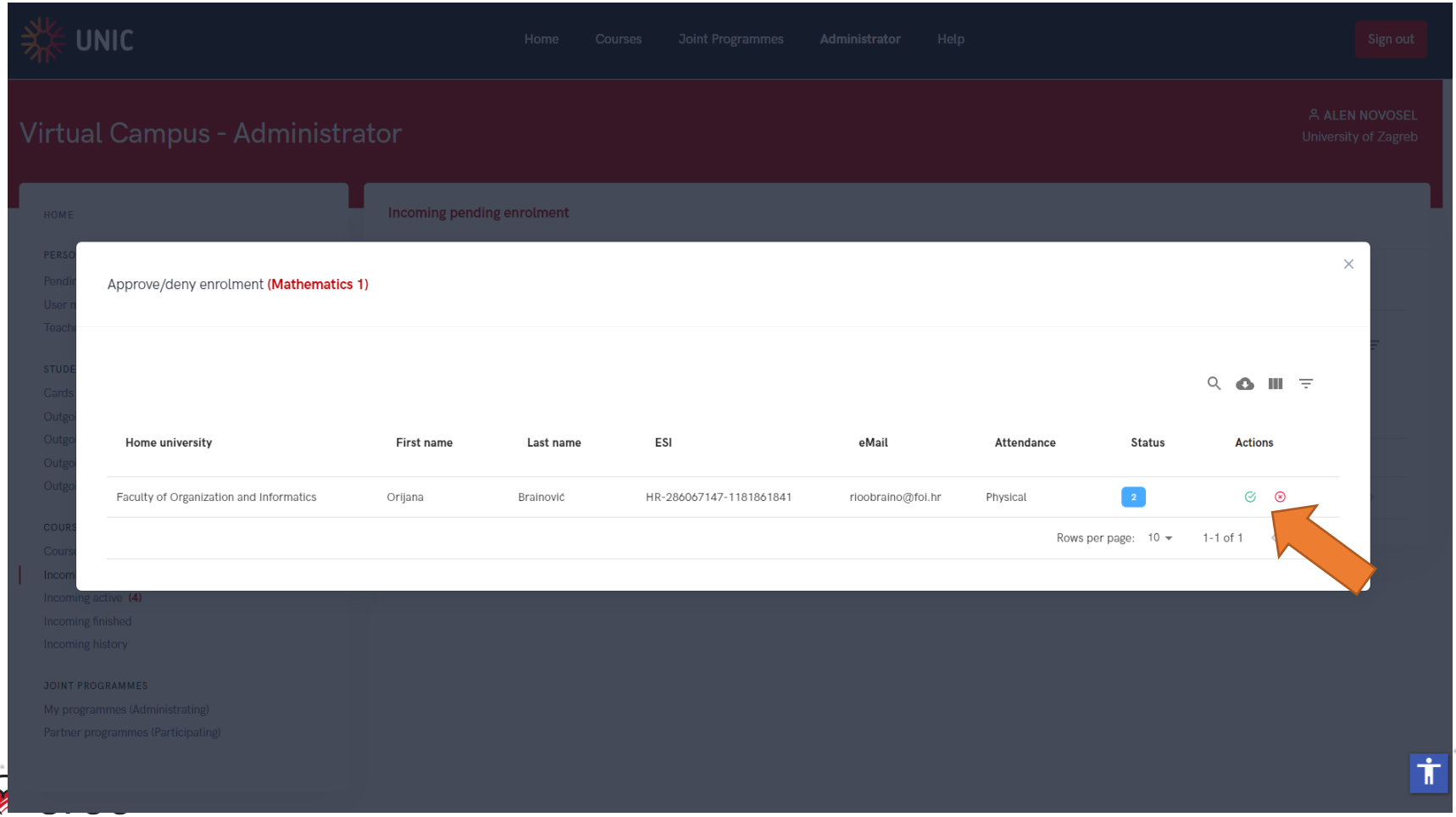
Outgoing Mobility – history



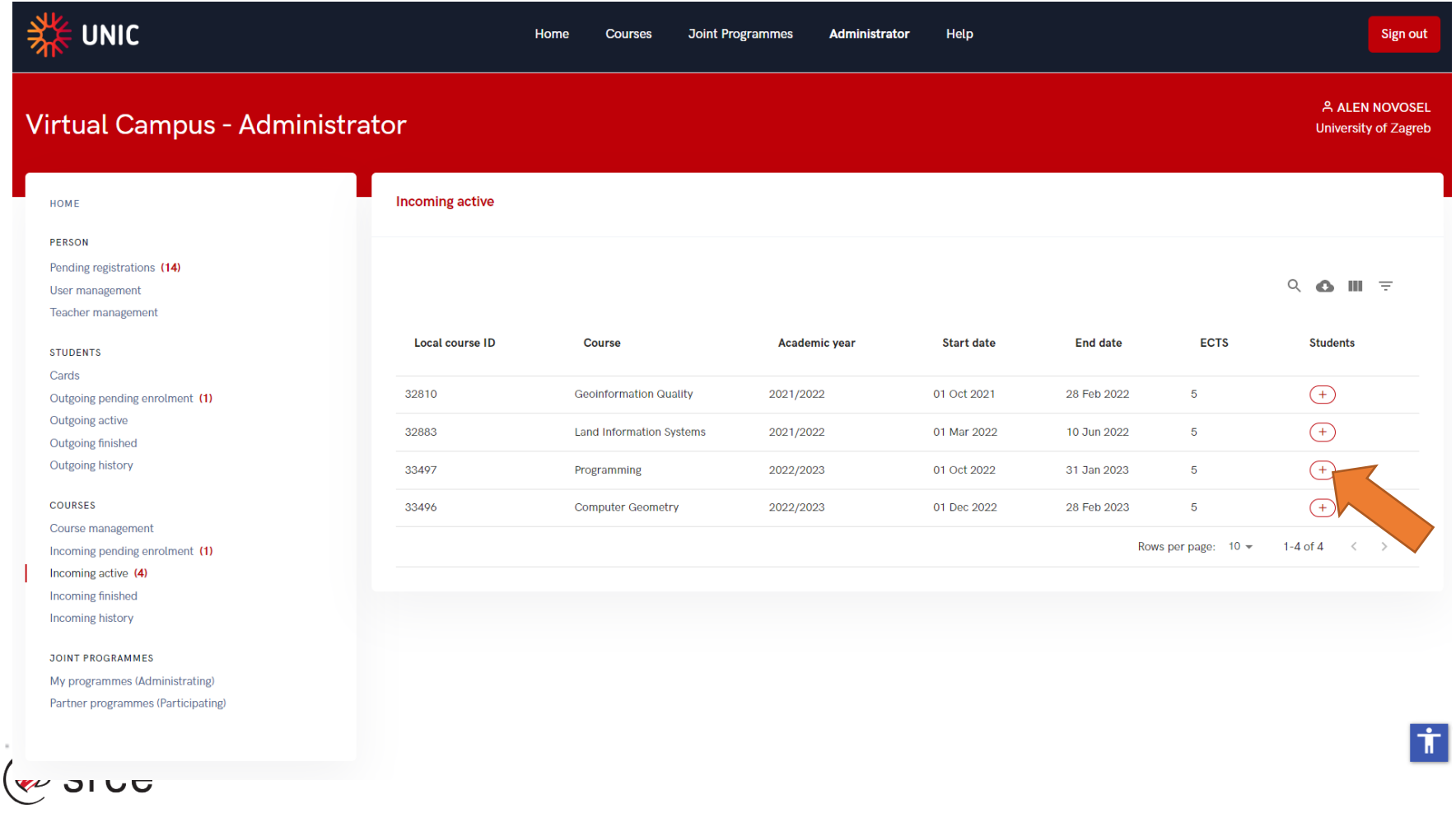
Outgoing Mobility – history



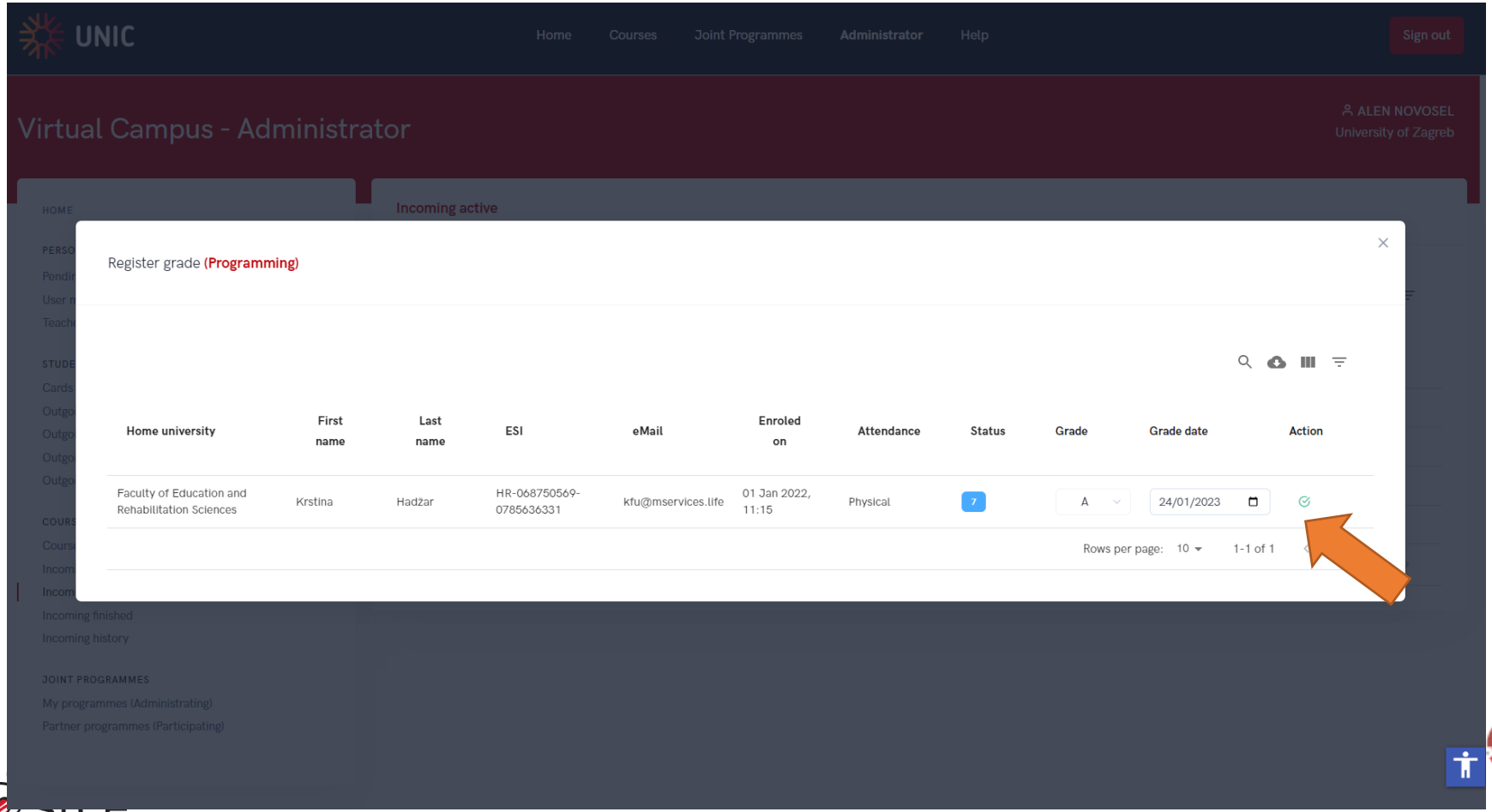
Incoming Mobility – pending



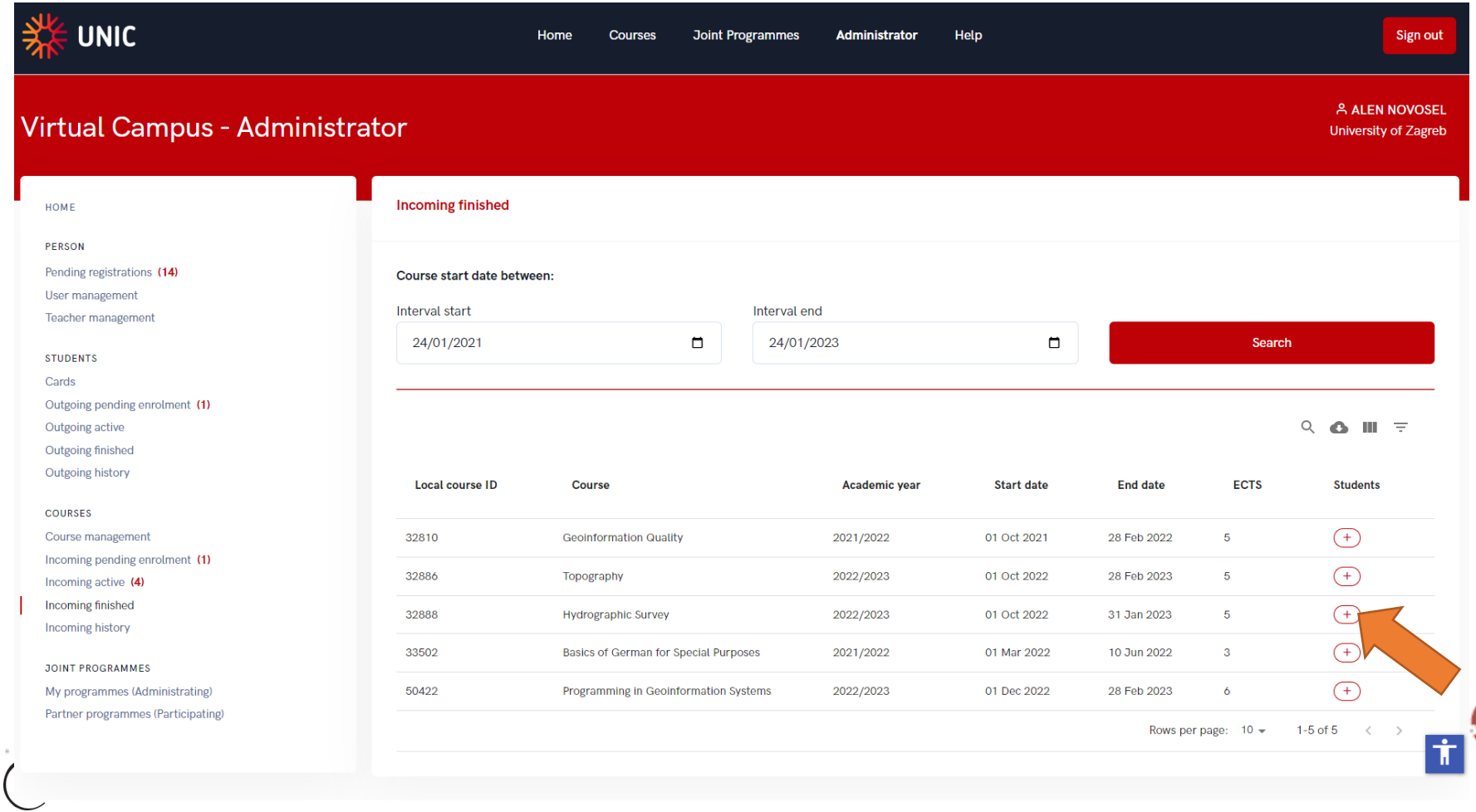
Incoming Mobility – active



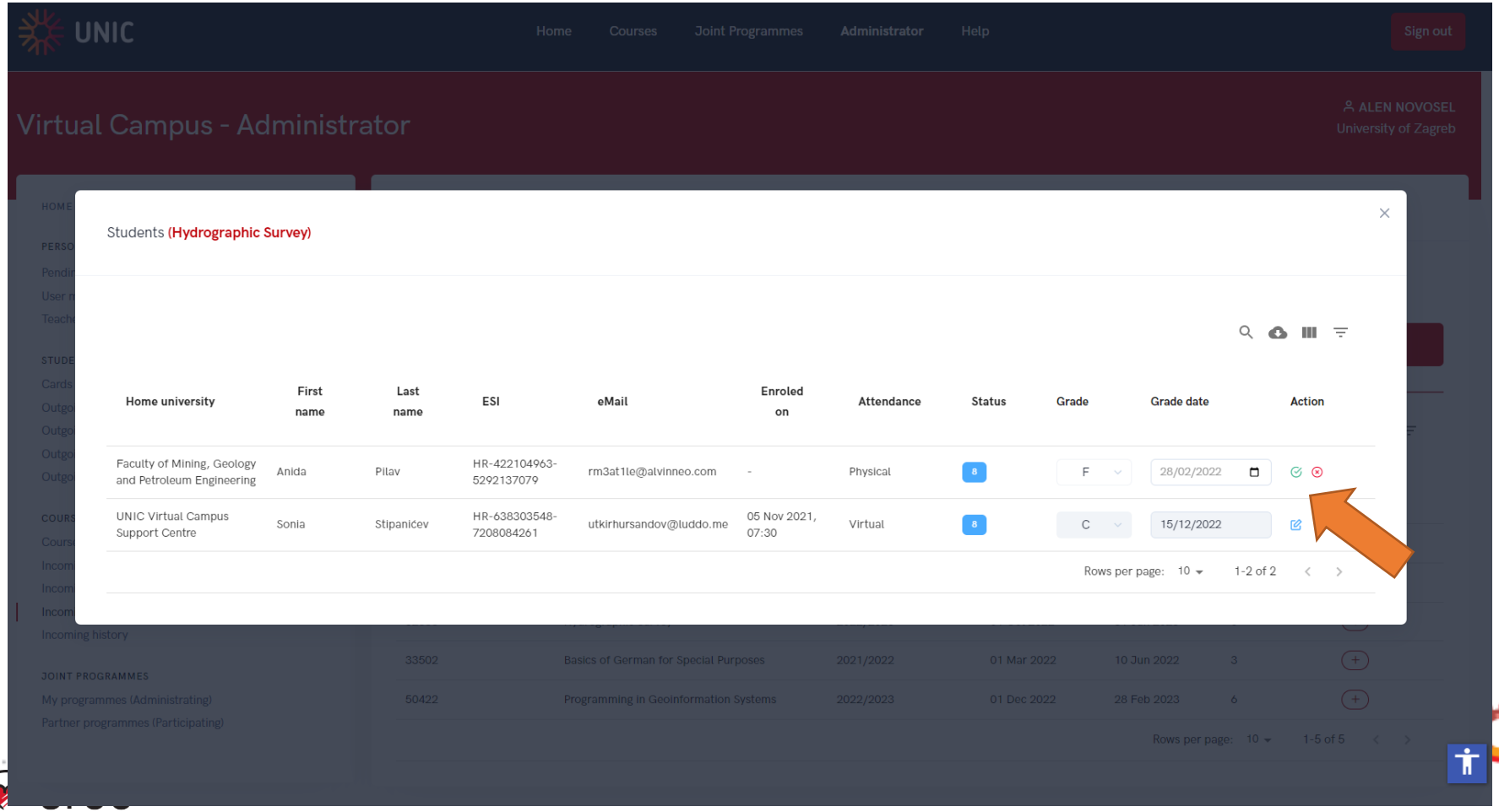
Incoming Mobility – active (register grade)



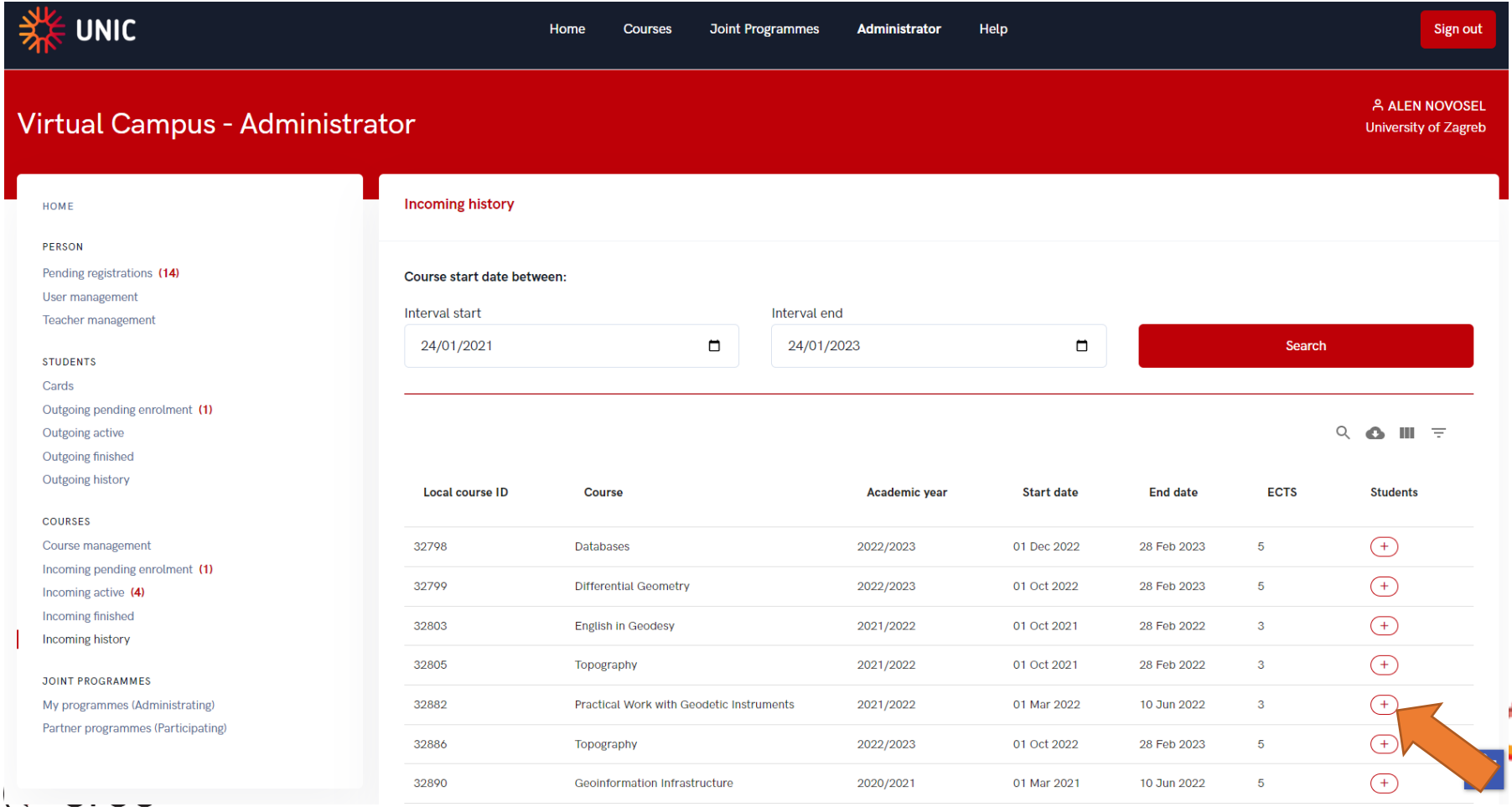
Incoming Mobility – finished



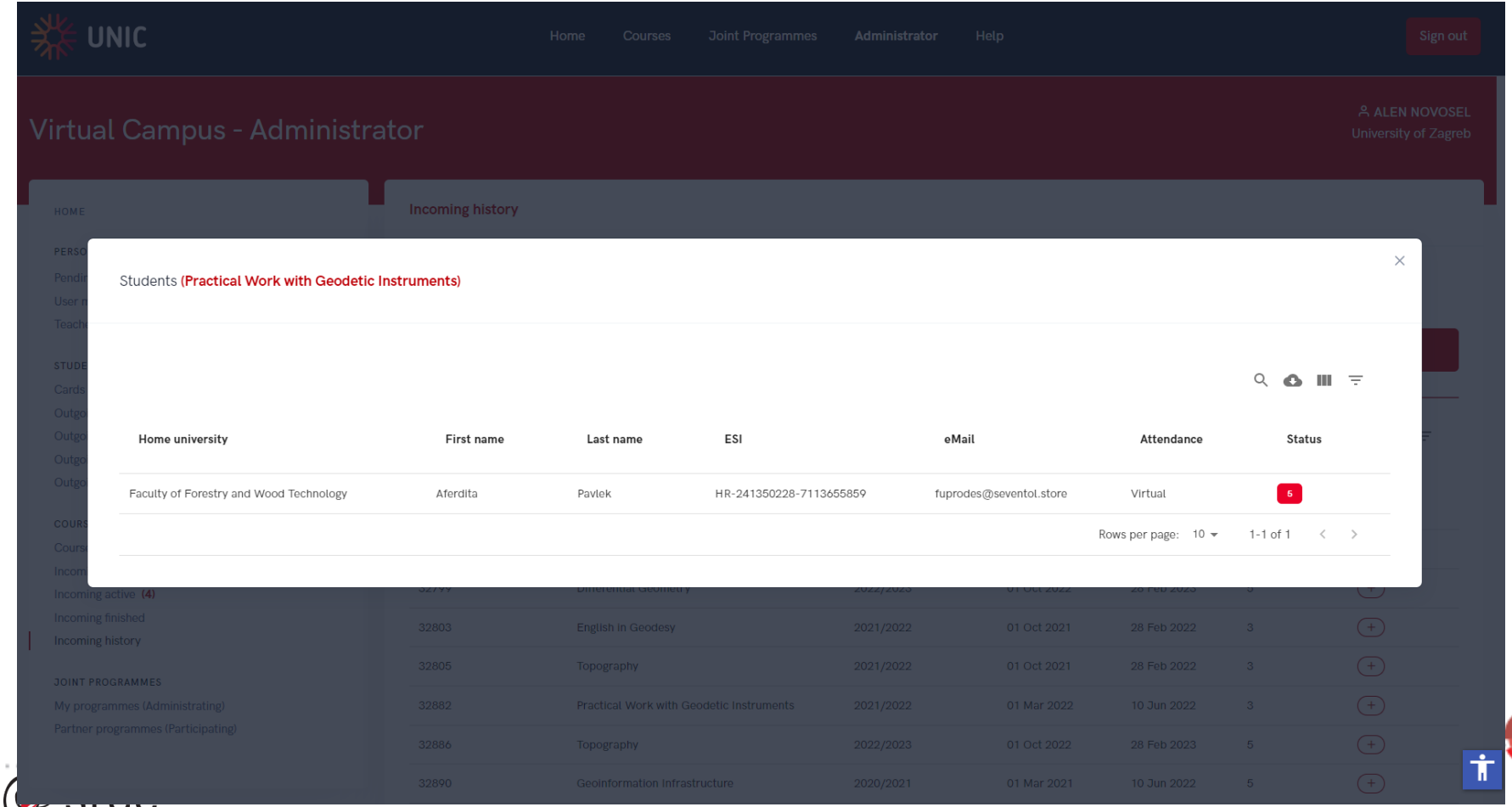
Incoming Mobility – finished (Edit grade)



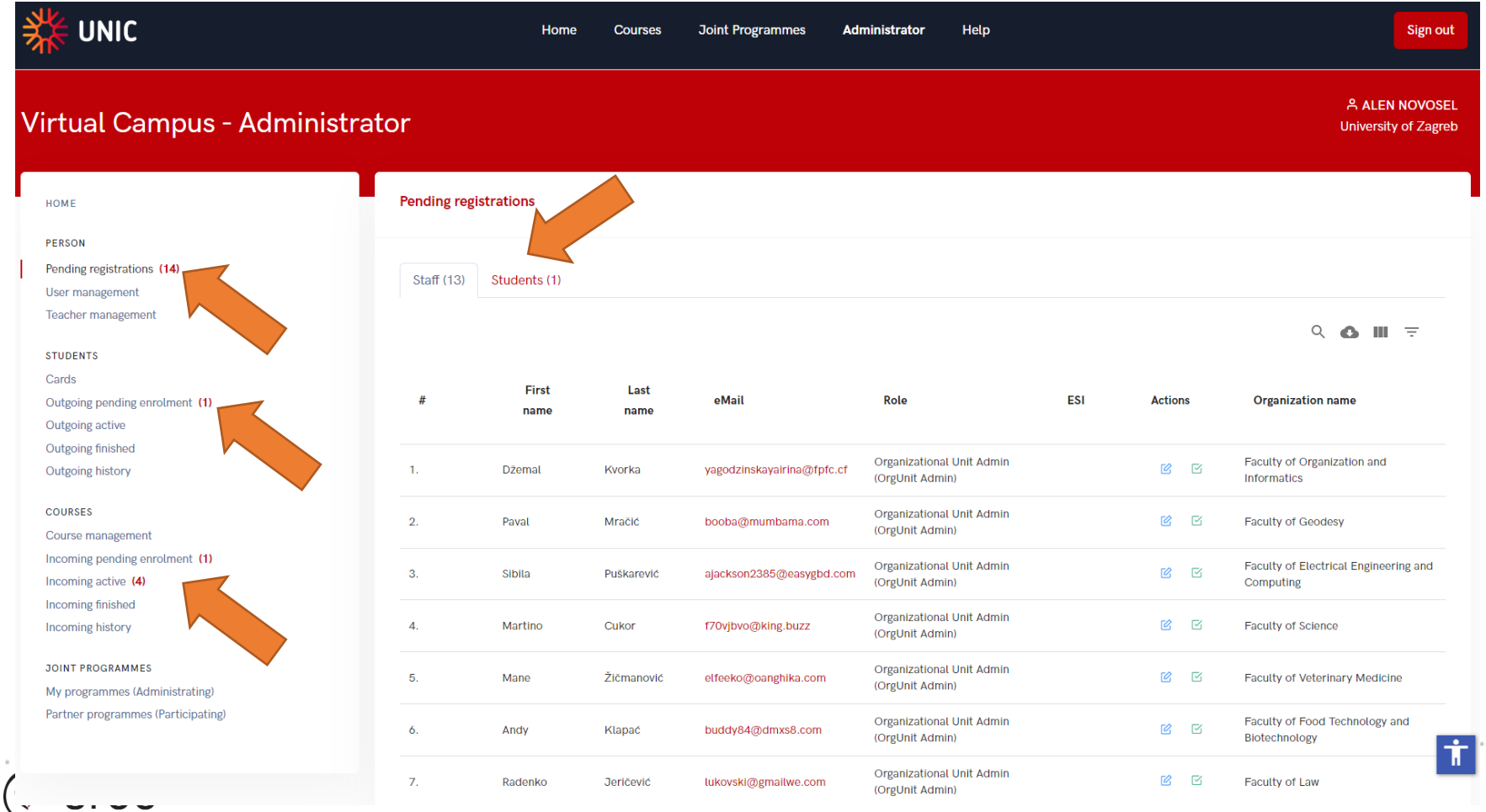
Incoming Mobility – history



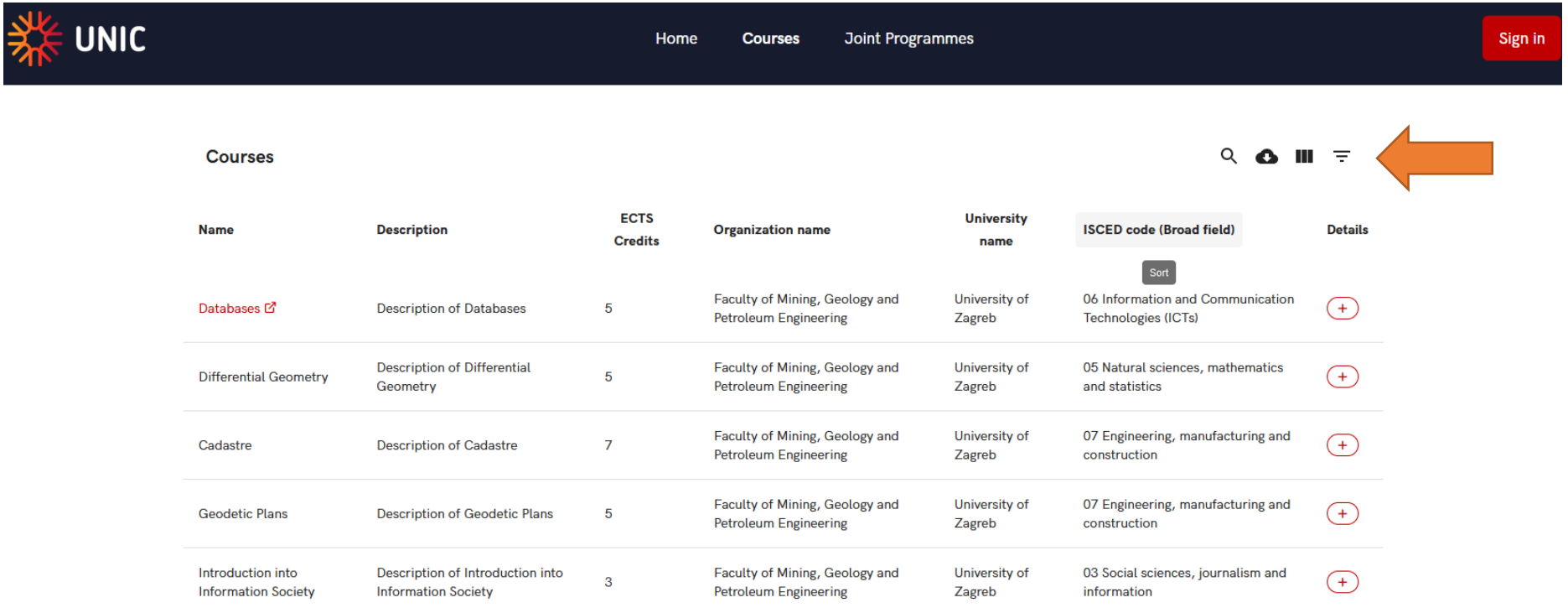
Incoming Mobility – history



The numbers suggest that there are actions that need to be taken



Searching, filtering and selecting columns



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Searching

datab

Search

Name	Description	ECTS Credits	Organization name	University name	ISCED code (Broad field)	Details
Databases	Description of Databases	5	Faculty of Mining, Geology and Petroleum Engineering	University of Zagreb	06 Information and Communication Technologies (ICTs)	+
Spatial Databases	Description of Spatial Databases	6	Faculty of Mining, Geology and Petroleum Engineering	University of Zagreb	06 Information and Communication Technologies (ICTs)	+

Rows per page: 10 1-2 of 2

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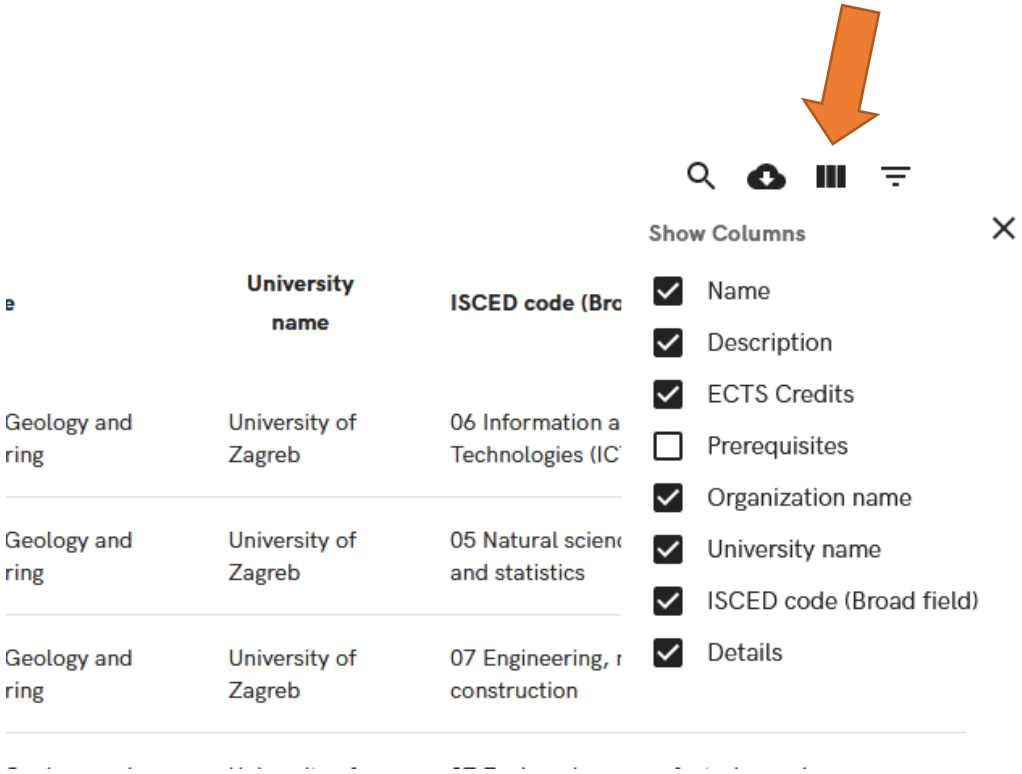
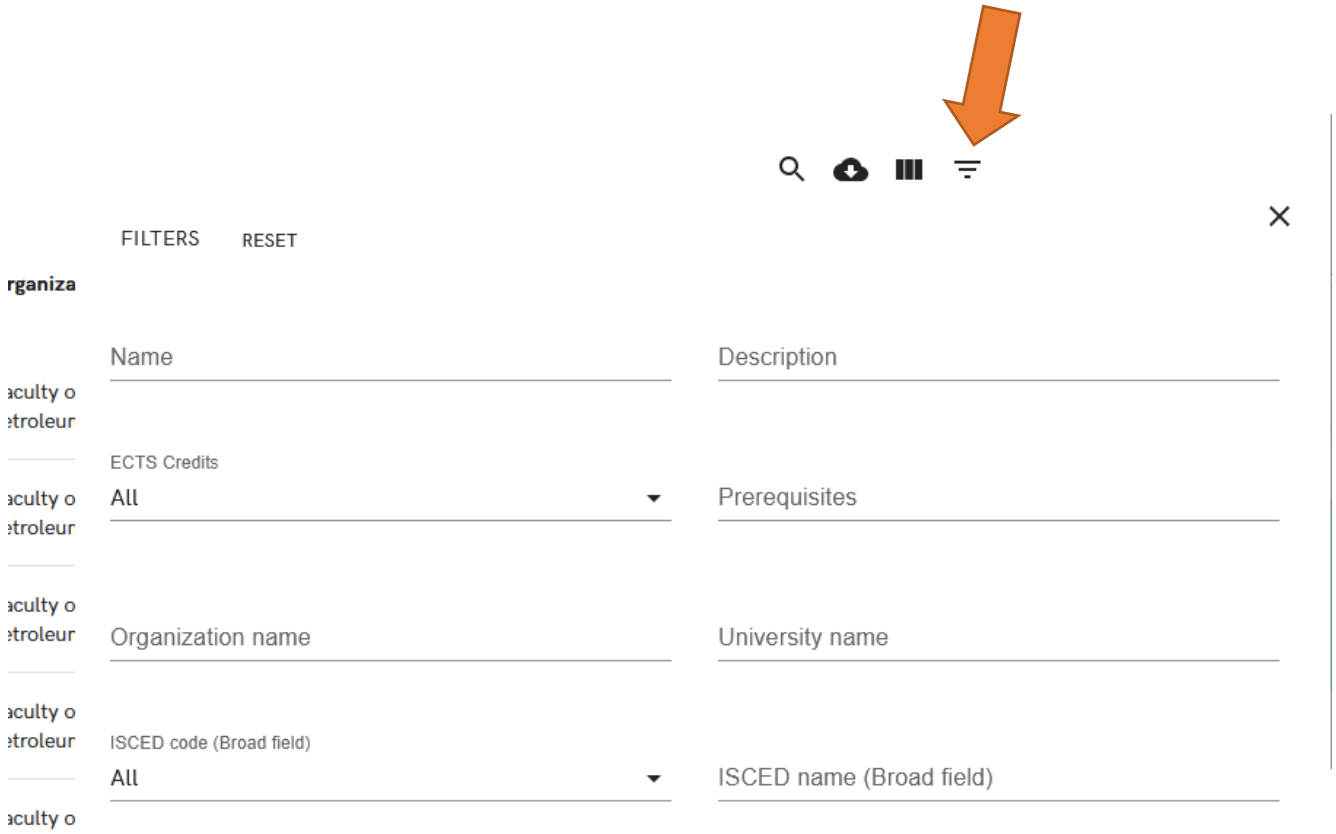
Selecting visible columns



Filtering


FILTERS
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ECTS Credits
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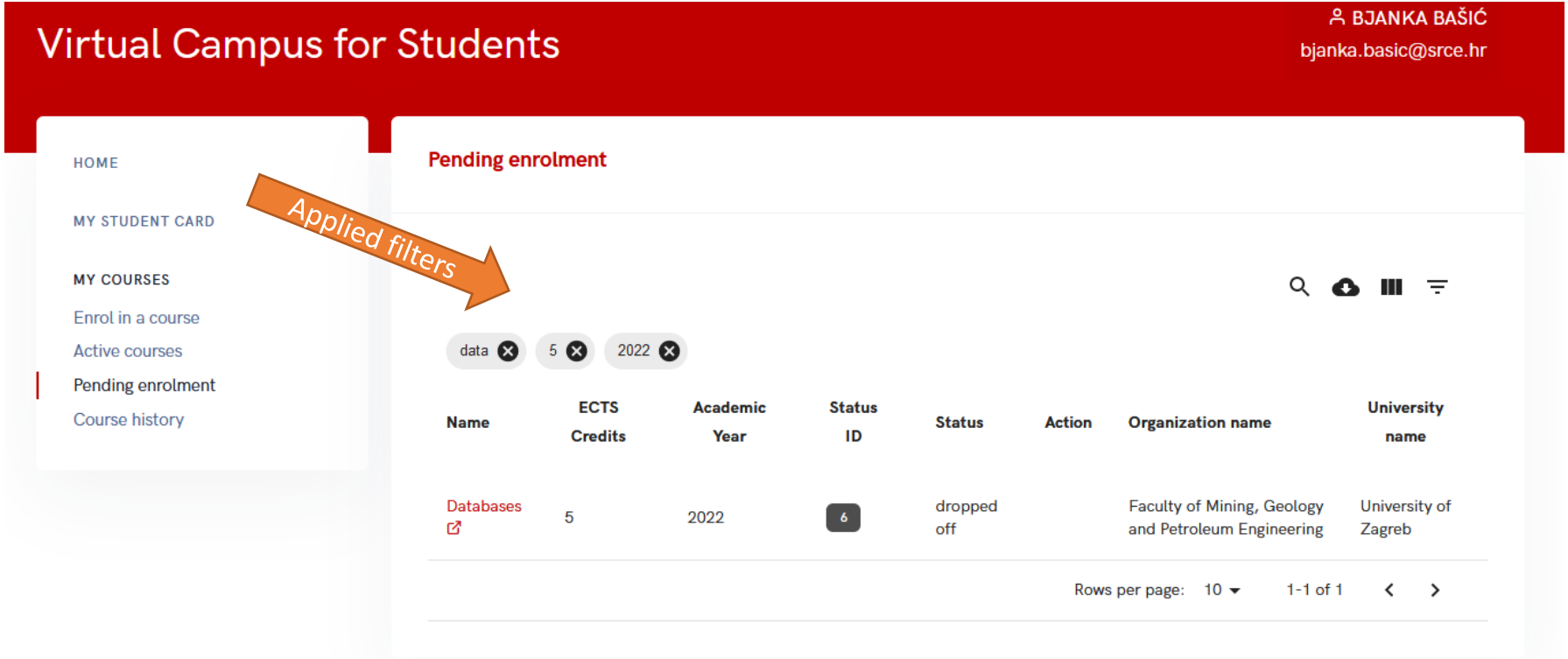
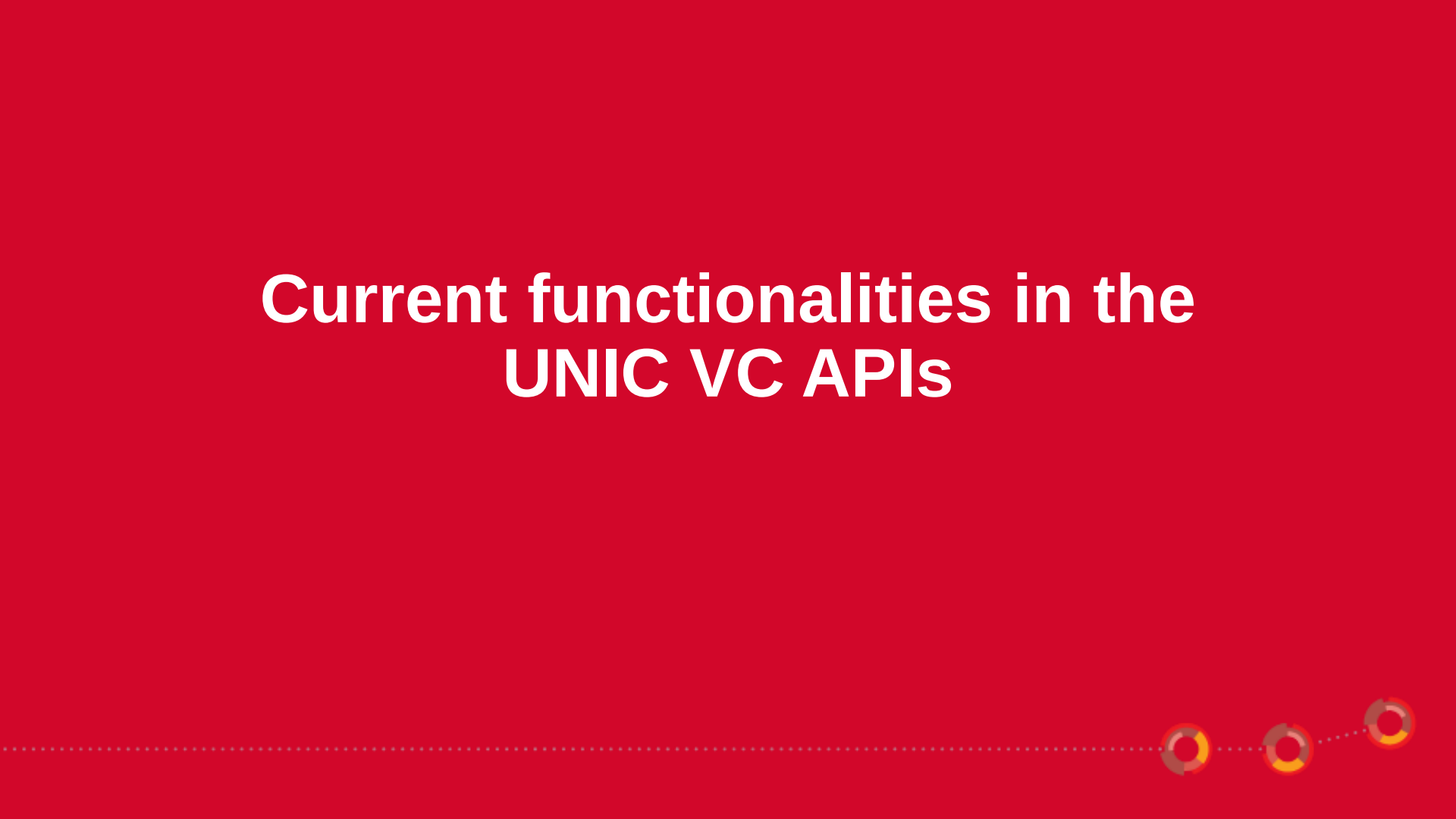
Prerequisites
Organization name
University name
ISCED code (Broad field)
All
ISCED name (Broad field)

Searching, filtering and selecting columns



Current functionalities in the UNIC VC APIs



API

- Almost everything that can be done in the portals can be done via API
- The goal is to facilitate much more client-friendly API environment
- There are 68 available end-points
- We use swagger docs, which is available at test and production environment

REST API documentation

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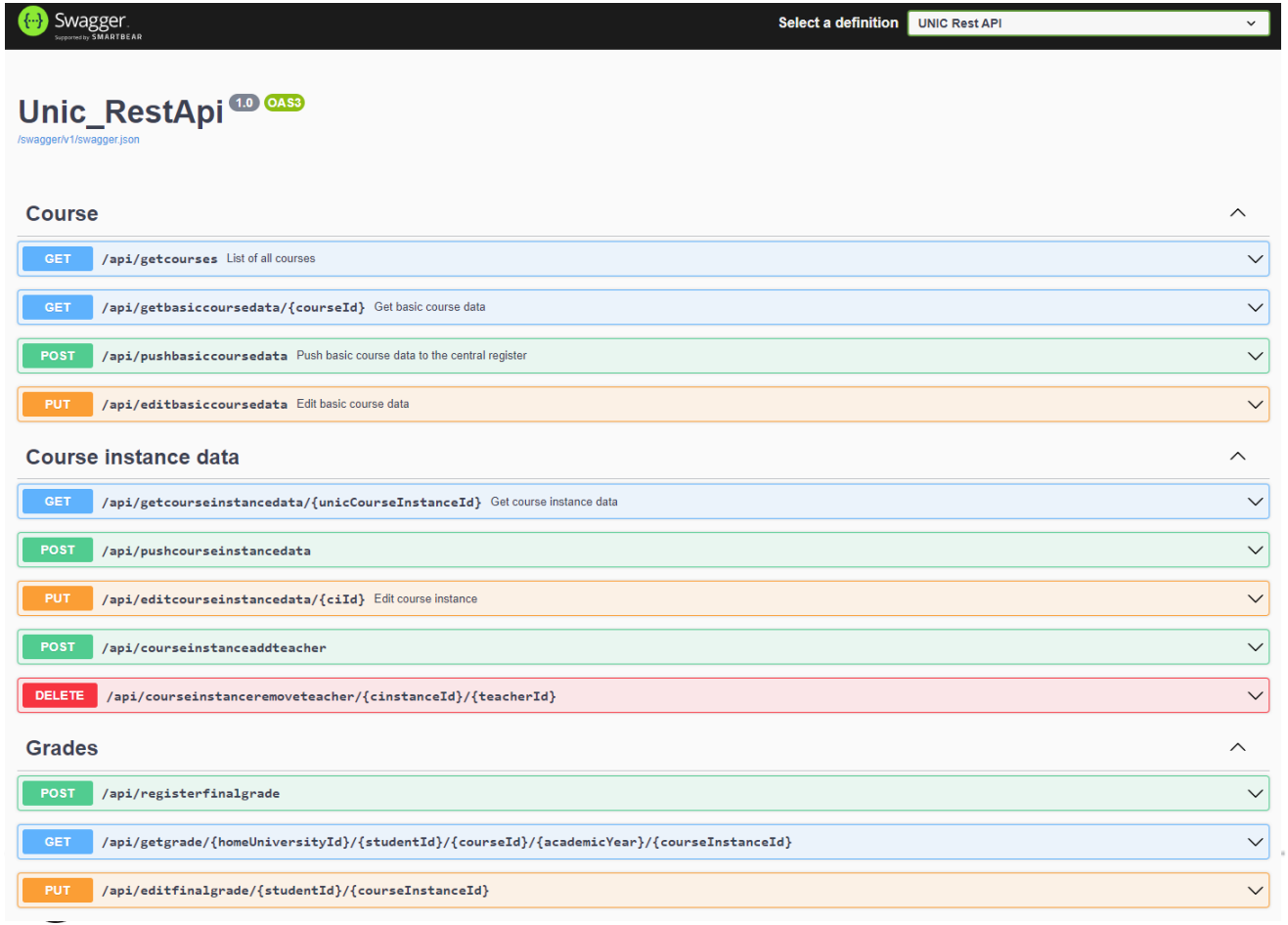
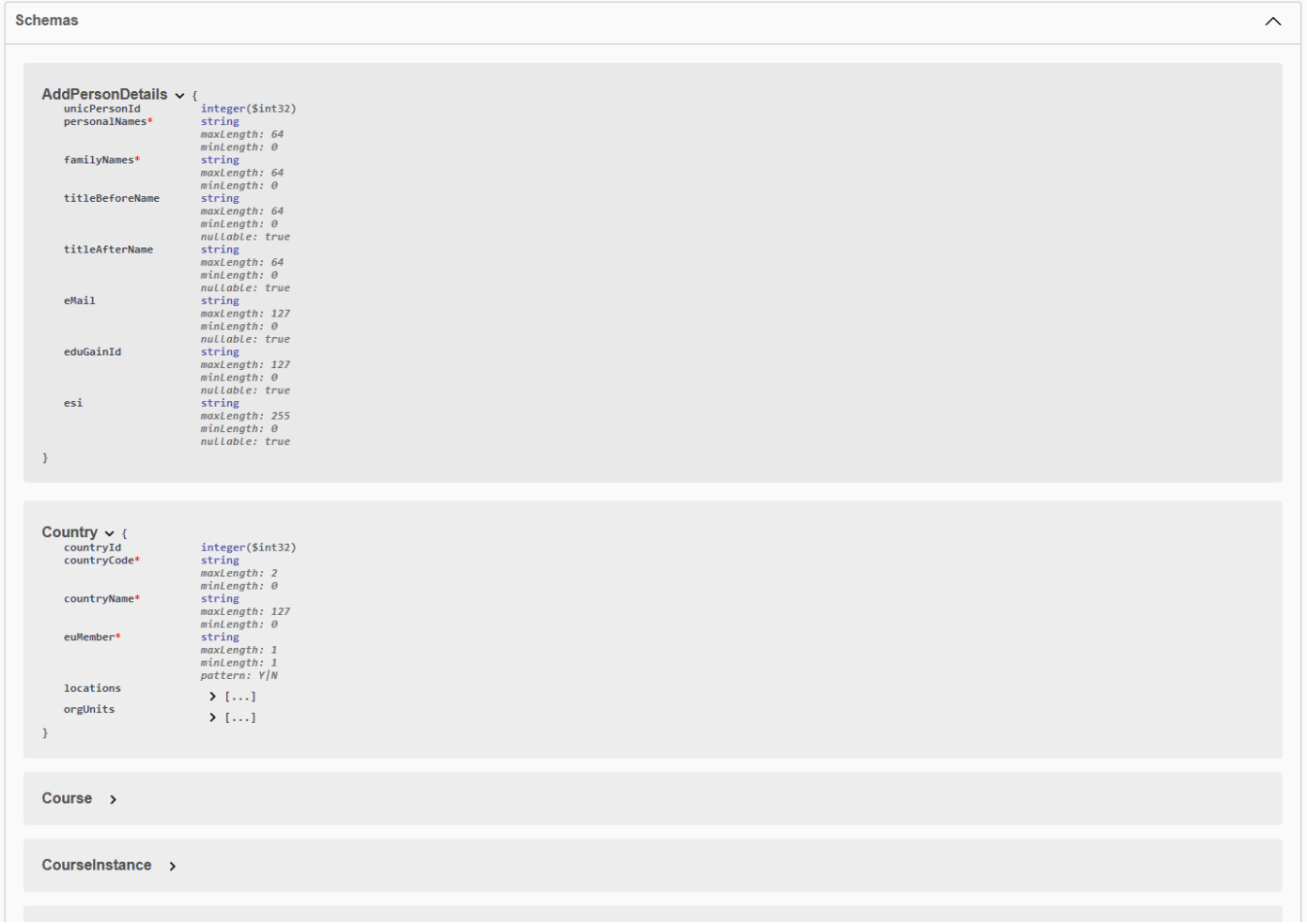
REST API documentation – end-points



REST API documentation - Schemas



APIs testing (Courses GET)

Course

GET `/api/getcourses` List of all courses

GET `/api/getbasiccoursedata/{courseId}` Get basic course data

Returns basic course data for specific course identified by course id

Parameters | Try it out

Name	Description
courseId * required integer($int32) *(path)*	courseId
x-request-personid * required *(header)*	Person id x-request-personid

Responses

Code	Description	Links
200	Requested course data. Media type: application/json Controls Accept header. Example Value | Schema	*No links*
404	Course with id {id} not found.	*No links*


```
{
  "unicCourseId": 0,
  "unicOrgUnitId": 0,
  "localCourseId": "string",
  "courseName": "string",
  "descriptionCourse": "string",
  "ectsCredits": 0,
  "uri": "string",
  "unicProgrammeId": 0,
  "prerequisites": "string",
  "iscedFieldId": 0
}
```

APIs testing (Courses POST)

POST `/api/pushbasiccoursedata` Push basic course data to the central register

Universities push basic course data to the central register (courses that are going to be offered in UNIC virtual campus)

Parameters | Try it out

Name	Description
x-request-personid * required *(header)*	Person id x-request-personid

Request body — application/json

Example Value | Schema

```
{
  "universityId": 15,
  "courseId": "16",
  "courseName": "Physics",
  "description": "Some course description",
  "ectsValue": 30,
  "uri": "https://someaddress.com/course",
  "prerequisites": "Some prerequisite for this class",
  "iscedFieldId": 0
}
```

Responses

Code	Description	Links
201	Inserted course data. Media type: application/json Controls Accept header. Example Value | Schema	*No links*
400	No permission to make changes for another university. Check UniversityId parameter. One or more validation errors occurred.	*No links*
500	The server encountered an internal error and was unable to complete your request. Trace id: {0}	*No links*

```
{
  "unicCourseId": 0,
  "unicOrgUnitId": 0,
  "localCourseId": "string",
  "courseName": "string",
  "descriptionCourse": "string",
  "ectsCredits": 0,
  "uri": "string",
  "unicProgrammeId": 0,
  "prerequisites": "string",
  "iscedFieldId": 0
}
```

Open Science Campus @ UNIC VC

Open Science Campus features

- Built as a part of UNIC Virtual campus

- Provides a searcheable portal of UNIC open science resources (publication, datasets, etc) to public
- Provides a portal of UNIC researchers and research groups to public
- Promotes open science by linking to important resources (such as Open Science Course built within UNIC4ER project)

Open Science Campus main functionalities (1)

- Connects periodically to OpenAIRE's
  - Each included repository has to implement OAI-PMH API to be able to share the data to OpenAIRE
    - which they most likely already do;
    - if not, they should anyway
- Does not provide a web app interface to edit the publication's data.
  All data changes must be done in the original repo

Open Science Campus main functionalities (2)

- Connects periodically to ORCID via ORCID API and pulls the publicly available information about researchers
- Enables the researcher to log in to UNIC VC Researcher portal
- Enables the researcher to establish a research group and/or join other groups within UNIC

The operation and the future of VC

Current status of the system operations

- UNIC VC currently developed and operated by University Computing Centre, University of Zagreb (SRCE)
- 3 different environments – development, testing and production
- All set up in SRCE's data centres
- Support available through unicvc-support@srce.hr alias
- SRCE provides the maintenance and the support
- Development and operational costs partly covered by UNIC projects

UNIC 2.0

- A long term commitment to UNIC VC
  - Support for ICT for all partner UNIs
  - Support for administrators for all partner UNIs
- Further improvement of supported processes (EWP, ESC, …)
- Maintenance, support and operation

Thank you

unicvc-support@srce.hr

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University of Zagreb
University Computing Centre

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