

Courses

Overview

The Courses product integration allows students to view their courses per term.

Vendors

The Courses product integration is currently supported by the:

- Ellucian Banner (XE)
 - Ellucian Colleague (custom) ERP systems
 - RESTful API
-

User Experience

The following section describes information relating to the user experience for the Courses product integration.

User Activities

- Students select the Courses tile to display a list of terms.
 - Student select a term to display the courses associated with that term.
-

Authentication

The Courses product integration requires the student's identifier from the vendor's system. This is obtained with token based authentication attributes.

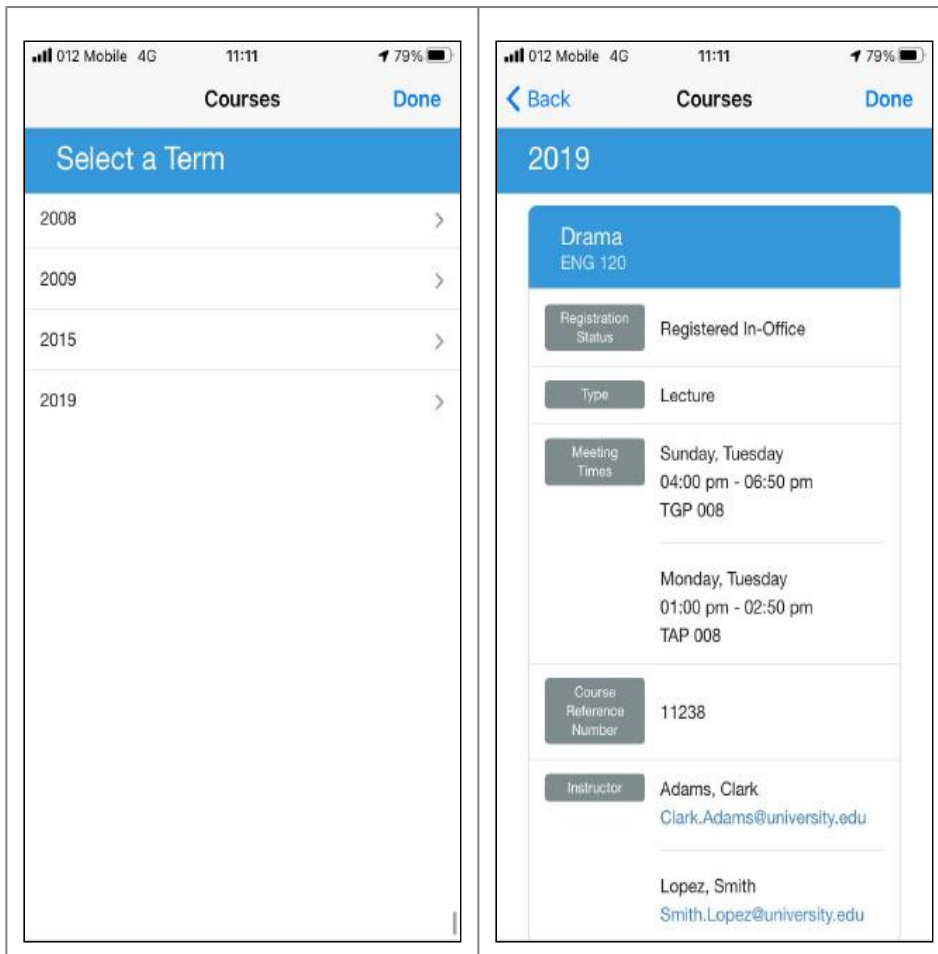
The connection to the vendor is handled as part of the generic API Configuration under the Vendor section. The first part of the API Configuration details the URL to which to connect and any parameters that are required. The second part relates to the API Authentication for the URL, which is vendor-specific, and could also be specific to the vendor instance the client is running.

Offline Support

None. Students must be online to retrieve their course data.

Screenshots

The following is an overview of the Courses product integration user interface for a reference when configuring it:



Technical Overview

The following section describes technical information for the Courses product integration.

Prerequisites

The following prerequisites are required to configure the Courses product integration:

- User identifier mapping
 - If you have CMAuth configured, map the relevant vendor ID in the integration profile (Additional Mapping), for example: `bannerId=employeeID`, where `employeeID` is the relevant user attribute on the vendor's backend system.
 - If you have LDAP configured, verify that the relevant attribute is returned as an attribute from the LDAP response.
- The campusM native app (Android/iOS) must be updated with the June 2020 release or later.

Required Format

Select one of the following links for the required format for that vendor:

- [Ellucian Banner 9 \(Also Referred to as XE\) Vendor](#)
- [RESTful API](#)

Ellucian Banner 9 (Also Referred to as XE) Vendor

- campusM uses two API calls to fetch courses data:
 - The first call is to retrieve all of the available terms of the student:
`https:// {HOST}/StudentApi/api/terms`
 - The second call is to retrieve the courses data for the selected term:
 - `https://{HOST}/StudentApi/api/students/{userId}/class-schedules?term={termId}`
- Banner 9 is the latest release of Banner.
- XE is an add-on to Banner that allows customers to extend it.
- For all integrations done prior to this PI, Banner 9 and XE have been interchangeable.
- The following is an example of a JSON response for the terms API:

```
[
  {
    "version": 0,
    "id": 1,
    "acyr_code": {
      "version": 0,
      "id": 16,
      "code": "2010",
      "description": "2019-2020"
    },
    "code": "202040",
    "description": "Summer 2020",
    "endDate": "2020-07-23",
    "financialAidPeriod": 1,
    "financialAidProcessingYear": "9293",
    "financialAidTerm": "1",
    "financialEndPeriod": 12,
    "housingEndDate": "2020-07-23",
    "housingStartDate": "2020-06-03",
    "startDate": "2020-06-03",
    "trmt_code": {
      "version": 0,
      "id": 2,
      "code": "M",
      "description": "Summer Semester"
    }
  }
]
```

```
]
```

- The following is an example of Courses JSON response:

```
[
  {
    "studentCourseRegistrations": [
      {
        "academicYear": "2019",
        "academicYearDescription": "2018-2019",
        "completionDate": "2019-05-03",
        "courseNumber": "434",
        "courseReferenceNumber": "10040",
        "courseRegistrationStatus": {
          "code": "RW",
          "description": "***Web Registered**"
        },
        "courseTitle": "Principles of Physiology",
        "creditHour": 3.0,
        "faculty": [
          {
            "bannerId": "A00120999",
            "displayName": "Vanterpool, Conwin",
            "primaryIndicator": true
          }
        ],
        "gradingMode": "S",
        "gradingModeDescription": "Standard Letter Grade",
        "instructionalMethod": "TR",
        "instructionalMethodDescription": "Traditional",
        "level": {
          "ceuInd": false
        },
        "meetingTimes": [
          {
            "beginTime": "1300",
            "building": "CH",
            "buildingDescription": "Carter Hall",
            "campus": "M",
            "campusDescription": "Main AAMU Campus",
            "creditHourSession": 3.0,
            "endDate": "2019-05-03",
            "endTime": "1350",
            "friday": true,
            "hoursWeek": 2.5,
            "meetingScheduleType": "L",
            "meetingType": "CLAS",
            "meetingTypeDescription": "Class",
            "monday": true,
            "room": "216-AUD",
            "saturday": false,

```

```

        "startDate": "2019-01-07",
        "sunday": false,
        "thursday": false,
        "tuesday": false,
        "wednesday": true
    }
],
"partOfTerm": "1",
"partOfTermDescription": "Full Term",
"scheduleDescription": "Lecture",
"scheduleType": "L",
"sequenceNumber": "01",
"startDate": "2019-01-07",
"subject": "BIO",
"subjectDescription": "Biology",
"term": "201910",
"termDescription": "Spring 2019"
}
],
"totalBill": 8.0,
"totalCeu": 0.0,
"totalCredit": 5.0
}
]

```

RESTful API

- campusM uses two API calls to fetch the courses data:
 - The first call is to retrieve all of the available terms for the student:

```
https://{HOST}/getTerms?userId={userId}
```
 - The second call is to retrieve the courses data for the selected term:

```
https://{HOST}/getCourses?termId={termId}&userId={userId}
```
- The terms API returns a JSON response with the following structure:

```

[
  {
    "termId": 1,
    "description": "Fall 2020",
    "termCode": "202010"
  },
  {
    "termId": 2,
    "description": "Spring 2020",
    "termCode": "202020"
  }
]

```

- The courses per term API returns a JSON response with the following structure:

```

[
  {
    "termCode": "2006",
    "courseNumber": "120",
    "subject": "ENG",
    "courseTitle": "Drama",
    "courseRegistrationStatusDescription": "Registered In-Office",
    "creditHour": "3.0",
    "scheduleDescription": "Lecture",
    "courseReferenceNumber": "11238",
    "meetingTimes": [
      {
        "beginTime": "1600",
        "endTime": "1850",
        "location": "TGP 008",
        "days": [
          "Sunday",
          "Tuesday"
        ]
      },
      {
        "beginTime": "1300",
        "endTime": "1450",
        "location": "TAP 008",
        "days": [
          "Monday",
          "Tuesday"
        ]
      }
    ],
    "lecturer": [
      {
        "name": "Adams, Clark",
        "emailAddress": "Clark.Adams@university.edu"
      },
      {
        "name": "Lopez, Smith",
        "emailAddress": "Smith.Lopez@university.edu"
      }
    ]
  },
  {
    "termCode": "2006",
    "courseNumber": "322",
    "subject": "FCS",
    "courseTitle": "Trends and Issues",
    "courseRegistrationStatusDescription": "Web Registered",
    "creditHour": "3.5",
    "scheduleDescription": "Lecture",
    "courseReferenceNumber": "11653",
  }
]

```

```

    "meetingTimes": [
      {
        "beginTime": "1730",
        "endTime": "2030",
        "location": "CS 250",
        "days": [
          "Wednesday"
        ]
      }
    ],
    "lecturer": [
      {
        "name": "Lopez, Smith",
        "emailAddress": "Smith.Lopez@university.edu"
      }
    ]
  }
]

```

Technical Flow Diagram

Both Banner and RESTful API currently require Basic Authentication API Authentication for all implementations that are currently available. "No Auth" can sometimes be used in testing.

Configuration

The following table describes the configuration options available for the Courses product integration.

Note that while most of these fields are not mandatory, they are displayed with their default values unless otherwise stated.

Field Name	Description	Mandatory	Data Type	Default	Example
Enable Product Integration	Check this box to enable Courses for use in the app.	No	Checkbox	Unchecked	
Product Integration Description	Description for this Courses instance.	Yes	String		Courses
Screen Title	Appears in the top header (of the product integration).	No	String	Courses	
Vendor					
Vendor Name	Defines to which vendor the integration connects.	Yes	Drop-down list	n/a	BannerXE
API Configuration					

Field Name	Description	Mandatory	Data Type	Default	Example
<p><i>This section contains the API details to define the API structure. You can test the API configuration. See Testing API Product Integration Configuration.</i></p>					
Base URL to retrieve the information	The URL for the API endpoint or vendor server.	Yes	URL	https://myDomain.com	
Parameter Input Option	<p>The parameter input option for the relevant vendor's user identifier. Possible values:</p> <ul style="list-style-type: none"> • Username • Token Property • Constant 	Yes	Drop-down list		Username
Authentication Type	<p>Select one of the following options:</p> <ul style="list-style-type: none"> • No Auth (all vendors) • Basic Auth (all vendors) • Bearer Token (RESTful API only) • API Key (RESTful API only) • OAuth using User App Authentication (RESTful API only) • OAuth using Client Credentials (RESTful API only) 	Yes	Drop-down list		
<p>Terms Configuration</p> <p><i>For Banner XE only</i></p>					
Exclude By Term Code	<p>Enter one or more term codes, or partial codes, to exclude.</p> <p>Including '%' in the code for a wildcard sequence, e.g. '%5' excludes any term code ending in 5. Entering just '5' excludes any term code that includes a 5 anywhere in it.</p>	No	List		%5
Exclude By Term Description	<p>Enter one or more term descriptions, or partial descriptions, to exclude.</p> <p>Use '%' for a wildcard sequence, e.g. '%Test' excludes any term description ending with Test. Entering just 'Test' by itself excludes any term description that includes Term anywhere in it.</p>	No	List		Non-Academic
<p>General</p>					

Field Name	Description	Mandatory	Data Type	Default	Example
Display Registration Status	Enables or disables the registration status on the course detail page.	No	Checkbox	Checked	
Display Credit Hours	Enables or disables the credit hours on the course detail page.	No	Checkbox	Checked	
Display Type	Enables or disables the type on the course detail page.	No	Checkbox	Checked	
Display Meeting Times	Enables or disables the meeting times on the course detail page.	No	Checkbox	Checked	
Display Course Reference Number	Enables or disables the course reference number on the course detail page.	No	Checkbox	Checked	
Display Instructor	Enables or disables the instructor on the course detail page.	No	Checkbox	Checked	
Past Terms (in days)	Display past terms for the last number of days (Banner XE only).	No	String	0	
Next Terms (in days)	Display future terms for the next number of days (Banner XE only).	No	String	0	
Input Time Format	The format of the times coming back from the API	No	Date format	hmm	
Display Time Format	The format to display any time in, throughout the integration	No	Time format	HH:mm	
Look and Feel					
Primary Theme Color	Used for the Screen Title header and other header elements.	No	Hex code	#444444	
Secondary Theme Color	Used for the Grade block headers.	No	Hex code	#6f8ea4	
Text/Labels					
<i>Text/Labels for the Courses product integration</i>					
Courses Page Title	Uses for the Courses page header.	No	String	Courses	
Terms Page Header	Used for the Terms page header.	No	String	Select a Term	
No Data Message	Displayed if no courses are found for a term.	No	String	No courses found.	
Registration	Used for the Registration Status block header.	No	String	Registration Status	

Field Name	Description	Mandatory	Data Type	Default	Example
Status Label					
Type Label	Used for the Type block header.	No	String	Type	
Meeting Times Label	Used for the Meeting Times block header.	No	String	Meeting Times	
Credit Hours Label	Used for the Credit Hours block header.	No	String	Credit Hours	
Course Reference Number Label	Used for the Course Reference Number block header.	No	String	Course Reference Number	
Instructor Label	Used for the Instructor block header.	No	String	Instructor	
Unknown Terms Text	Displayed any time a term is to be displayed, but there is no valid description for that term.	No	String	Unknown Term	
Terms Service Failure Message	This message appears when the integration is unable to reach or process the terms API correctly.	No	String	The page is having trouble fetching academic terms - please try again shortly.	
No Terms Message	This message appears when there are no terms.	No	String	No terms found.	
Service Failure Message	This message appears when the integration is unable to reach or process the service call correctly.	No	String	The page is having trouble fetching your courses - please try again shortly.	
Import/ Export Configuration <i>You can configure product integration and then export it to another campusM environment, for example, from sandbox to production or from preview to production.</i>					
Import Configuration	Use this option to load configuration from JSON of an exported product integration.				
Export Configuration	Create a JSON file with all product integration configurations.				