

BCS Degree Navigator

Project Description

Who is it for?

The BCS Degree Navigator is for BCS students and (possibly) alumni.

What will it do?

The web service will enable BCS students to track the credits that they have earned to date and plan the courses in which they will enroll in the future. The web service will help students navigate the BCS degree by highlighting which requirements have been met and which requirements remain outstanding. The web service will store data for each student account, so that students can update their plan as they progress through the degree.

What type of data will it store?

The BCS Degree Navigator will store account identifying information (Full name, student number(key), password), contact information (email address), information regarding the courses completed to date, and (possibly) information regarding the chosen bridging module.

What will users be able to do with this data?

Users of the BCS Degree Navigator will be able to:

- Enter data via forms.
- Store data regarding account and contact information.
- Store data regarding courses that they have completed, courses in which they are currently enrolled, and courses in which they plan to enroll in the future.
- Confirm which degree requirements have been met.
- Determine which degree requirements are currently outstanding.
- Visualize their progress graphically.
- Discover information regarding course prerequisites.
- See their Cumulative GPA

What additional functionality might you add or remove based on time constraints?

Depending upon time constraints, users of the BCS Degree Navigator might be able to:

- Search for courses by course code, course title, or instructor.
- Store data regarding when a course is taken and the grade achieved.
- Determine which (if any) prerequisite courses are completed and/or outstanding for specific courses.
- View course suggestions based on completed prerequisites and/or known course hierarchies.
- Find contact information for instructors and professors teaching in the Department of Computer Science → links to RateMyProf?

Project Tasks

Minimal Requirements

Users of the BCS Degree Navigator will be able to:

- Enter data via forms
- Store data regarding account and contact information.
- Store data regarding courses that they have completed, courses in which they are currently enrolled, and courses in which they plan to enroll in the future.
- Confirm which degree requirements have been completed and determine which degree requirements are currently outstanding.
- Visualize their progress graphically.
- Discover information regarding course prerequisites.
- Ability for student to enter course exemptions

Standard Requirements

Depending upon time constraints, users of the BCS Degree Navigator will likely be able to:

- View the web service easily on any device, big or small (responsive design).
- Search for courses by course code and course title
- Store data regarding when a course is taken and the grade achieved.
- Determine which (if any) prerequisite courses are completed and/or outstanding for specific courses.
- Find contact information for instructors and professors teaching in the Department of Computer Science.
- Display GPA

Stretch Requirements

Depending upon time constraints, users of the BCS Degree Navigator might be able to:

- View course suggestions based on completed prerequisites and/or known course hierarchies.

- Search for courses by instructor.
- Find contact information for instructors and professors teaching in the Department of Computer Science.
- Accommodate students with extenuating circumstances
- Auto-complete drop down.

Task Breakdown

Task 1: Data Entry and Data Persistence

1. Data entries → name, student number, bridging module, courses taken, courses student wants to take, exemptions.
 - a. Form 1) Name, student number, e-mail (prompt user to create an account)
 - i. Check that email or student ID is valid
 - ii. Check that email or student ID is unique
 - iii. Check that password is adequately secure
 - b. Form 2) Courses taken
 - i. Divided three sections: Exemptions, Core, Bridging Module
 - ii. Drop down menus for department and course number
 - iii. Grades entered as written input
 - iv. An “Add” button that adds each course to a list
 - v. A “Remove” button on each item or a “Remove Selected” button for courses added in error.
 - vi. A “Submit” button.
2. Data Persistence
 - a. Stored in NoSQL MongoDB

Task 2: Degree Requirements Completed and Outstanding


1. Compile total list of degree requirements
2. Figure out how to scrape course prerequisites while linking them to course
3. Look through degree requirements rulebook for fine print. Assess what rules need to enter backend logic.


Please set up your
profile, Joe...

Courses completed:

<input checked="" type="checkbox"/>	<input type="checkbox"/>	▼ 110	CPSC	CORE	82
<input checked="" type="checkbox"/>	<input type="checkbox"/>	▼ 180	MATH	CORE	56
<input checked="" type="checkbox"/>	<input type="checkbox"/>	▼ 100	PHIL	EXEMPTION	68
<input checked="" type="checkbox"/>	<input type="checkbox"/>	▼ 300	EOSC	BRIDGING	92

Submit

Upload a photo... 



(Only if you'd like!)

(Don't worry, we'll only ask you for all of
this once!)

Welcome
to
BCS Degree
Navigator!

LOGIN

NAME:

STUDENT#:

EMAIL:

Minimal

Core

CPSC 110

Elective

Bridging

STAT 302

Add a Course

Department

Drop down

Number & Name

Drop down

Type

Core, Eled, Bridg, Exemption

Submit Remove

(Standard Feature v)

Check Outstanding Requirements

List all unique courses

List all groups of courses

Requirements

CPSC 110 ✓
CPSC 210 ✓
CPSC 310

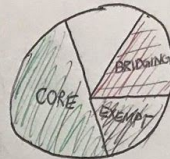
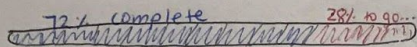
CPSC 300+ (3 Left)
CPSC 400+ (3 Left)

CPSC 300+ (2 Left)
↳ Bridging

Any Dpt 300+ (2 Left)

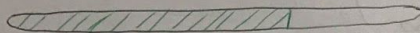
Welcome, Joe...

Overall:



Name: Joe Smith
Student#: 406231
Email: jsmith@gmail.com

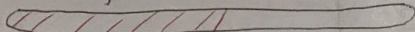
Core:



Because you took CPSC 210...

CPSC 310:
Software
Construction

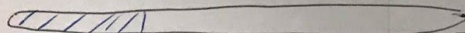
Bridging:



Because you took PHIL 200...

MATH 200:
CALCULUS

Exemptions:



... ever thought about taking up German?

GERM
100

Overall GPA:
82%

CPSC GPA:
86%