



Learning Objectives:

- Manipulate the default WordPress query
- Create custom post types
- Create and display relationships between custom post types
- Creating and using feature images in WordPress

This lab uses the slide decks from Week 6 (W6) and Week 7 (W7)

Task 1: Create a new custom post type: Program

- In **university-post-types.php** modify the existing function by inserting code to create a custom post type called **program** that supports archives and uses a custom icon (Week 6, slides 3-4). Ensure all of the appropriate dashboard interface labels are applied (Week 6, slide 5).
- Create four dummy program posts and ensure the permalink structure is updated (Week 6, slide 6)
- Rebuild the permalink structure (Week 6, slide 8)

Task 2: Create individual and archive pages for the Program custom type

- Create a dedicated template for the custom type by duplicating `single.php` and renaming it to `single-program.php` (Week 6, slide 9). Customise the metabox code to reflect Program details (Week 6, slides 10-11).
- Create an archive file for the Programs (Week 6, slides 12-15) that lists all of the program posts.
- Sort the programs by customising the default WordPress query (Week 6, slides 16-17)

Task 3: Relate Events to Programs

- Create a custom (relational) field that links an Event to a Program using the WordPress admin (Week 6, slides 20-25). Note comment on slide 25.
- Link a few programs to at least one event

Task 4: Display relationships between Events and Programs on the front end

- In `single-event.php`, write code to access the relational field from Task 3 (Week 6, Slide 28) and print the value (Week 6, slides 29-30).
- Iterate through the list of event post objects and print the title of each one (Week 6, slide 32)
- Format the output as a list of links to pages to the respective(s) programs (Week 6, slides 34-35)
- Style it nicely (Week 6, slides 36-37)
- Extend the code to cater for events that have no associated programs (Week 6, slides 38-40)

Task 5: Display relationships between Programs and Events on the front end

- Reuse code from `front-end.php` in `single-program.php` to list all of the upcoming events (Week 6, slides 44-46)
- Customise the query to show only events related to the program (Week 6, slides 48-49)
- Cater for programs that have no events (Week 6, slide 49)
- Style it nicely (Week 6, slide 50-51).
- Tidy up your website so that all of the links are working on the front page to the pages you created (Week 6, slides 52-54)

Task 6: Create a new custom post type and template: Professor

- In the `mu-plugins` folder, register a new custom post type for professors (Week 7, slides 5-6).
- Rebuild the permalink structure (Settings->Permalink->Save) from the WordPress admin.
- Create a custom template in the themes folder, `single-professor.php`, for the professor post type (Week 7, slides 9-10)
- Create three new professor posts using the WordPress admin (Week 7, slide 7)

Task 7: Set up a relationship between Professor and Program post(s)

- From the WordPress admin, reuse the Related Program Field so that a user can associate a

professor with one or more programs (Week 7, slides 11-12).

- Associate the professors you created in Task 1 with one or more programs. (Week 7, slides 13-14).
- In single-professor.php, customise the code to reflect the professor's profile page (Week 7, slide 15)

Task 8: Display relationships between Programs and Professors

- Edit the query in single-program.php (Week 7, slides 16-17).
- Explain why the upcoming events disappeared (Week 7, slide 18) using the post type ids for your own content (Week 7, slides 20-21).
- Fix the result by inserting `wp_reset_postdata()` (Week 7, slide 17, 19) between the two queries.

Task 9: Set up feature images for the Professor post type

- In functions.php, add code that allows your theme to support feature images overall (Week 7, slide 25).
- In the mu-plugins folder, edit the professor post type to support feature images (Week 7, slide 26).
- Verify that the feature image option is available on the WordPress admin (Week 7, slide 27).
- Set images for each of the professors on your website (Week 7, slide 28).

Task 10: Display feature images on Professor and Program pages

- Add code to single-professor.php to display the feature image alongside the content for the professor post type (Week 7, slides 29-30).
- Format it nicely (Week 7, slides 31-32).
- Add code to single-program.php to display a thumbnail of the professor image (Week 7, slides 34-35)

Task 11: Use the Regenerate Thumbnails Plugin to create custom image sizes

- Examine the wp-content->uploads folder to see the images you have uploaded into WordPress (Week 7, slide 36)
- Add code to the functions.php file to generate custom image sizes (Week 7, slide 37)
- Download and install the Regenerate Thumbnails plugin. Regenerate thumbnails for the images in your website. (Week 7, slides 39-40).

Task 12: Display custom image sizes on the Program page

- Edit single-program.php to use one of the custom image sizes you created in Task 12 (Week 7, slides 43-45).
- Install the Crop-Thumbnails plugin (Week 7, slides 47-48) and tweak your image crop for practice (Week 7, slides 49-50).