

CSS Grid

- Allows layout for child elements
- In vertical and horizontal grid
- Blocks can "span" multiple "cells"
- We used "areas"
 - With different column sizes
 - Not the only option

CSS Grid Properties

We will be using some additional CSS properties

Parent element: (with `display: grid;`)

- `grid-template-columns: repeat(12, 1fr);`
 - Creates even distribution of space in columns
 - `12` can be any number
- `gap` - puts space between columns/rows

CSS Properties Child Element

- `grid-column: span 1;`
 - The `1` can be any number
 - Child will span that many cells
 - Spans over any gap
- `grid-column: 3 / 6;`
 - The `3` and `6` can be any number
 - Think of the `/` as "to"
 - Child will span from "line" 3 to "line" 6
 - Lines are the start/end of cell boundaries
 - Line 1 is left side of first cell
 - Line 2 is right of first cell, left of 2nd

Not Areas

- We used `grid-template-areas` and `grid-area`
 - Those are still valid
 - But we aren't using them here
 - Different way of laying cells out

Grid layout without display: grid

- Grid column layout is a design idea
 - CSS Grids are a good way to implement
 - ...but not the only way
 - Can do with flex
 - Can do with percentage widths
- Concept vs implementation
 - Different
 - ...but please use css grid

display: grid impacts direct children

Remember how `display: grid;` works

- Only affects direct children
- To match non-child elements to grid
 - Make wrapper width 100%
 - Recreate the same grid inside wrapper

Grid column layouts

A common design pattern

- Page layout aligns to evenly spaced columns
- A row will contain items
 - Spanning cells
 - Evenly or unevenly

Various Online Grid Layouts

Most are not using CSS Grids

- But they are using a multi-column Grid Layout
- <https://wines.com/>
- <https://allrecipes.com/>
- <https://bostonglobe.com/>
- <https://bbc.com/>
- <https://www.usarchery.org/>
- <https://www.usfigureskating.org/>

Previous Iteration of NEU website

<https://web.archive.org/web/20221231134920/https://www.no>

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Responsive Alignment

Benefits of this column layout

- Allows mix of sizes
- Consistent alignment
 - Not off by a pixel or two
- Don't need to declare areas
 - "rows" can auto wrap
- Easily responsive
 - Cells evenly expand

Adaptive Alignment

Another potential benefit

- Change the cells elements span
 - At different breakpoints
 - Mobile/Tablet/Desktop?

Could instead change number of columns

- At different breakpoints

Adaptive Tablet Example



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- Academic Programs
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- Visit Campus



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- Admissions
- PhD Education



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- Professional Programs
- Campus Network

Adaptive Phone Landscape Example

RESEARCH >

- Health
- Security
- Sustainability

LIFELONG LEARNING >

- Professional Programs
- Campus Network
- Admissions



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- More About Athletics

12 Column Grid

- Many grid layouts exist
- 12 column is very common
 - Allows options for even spanning:
 - 6 columns, 4 columns, 3 columns
 - Allows offset combos:
 - 3+9, 4+8

Why 12 columns though?

- Good number of options
 - Mostly
- All subjective

Rule of Thirds

In photography, the **Rule of Thirds** says

- Divide picture up into thirds
- Vertically and horizontally
- The 4 intersections are more "visually interesting"

[https://en.wikipedia.org/wiki/Rule of thirds](https://en.wikipedia.org/wiki/Rule_of_thirds)

12 Column Format allows for thirds

Web Design is a little different than photography

- Photos don't scroll

But you can still use that concept

- A 3+6 or 6+3 split
 - Puts center of an item at "interesting" point
- A 4+8 or 8+4 can work if edges are interesting

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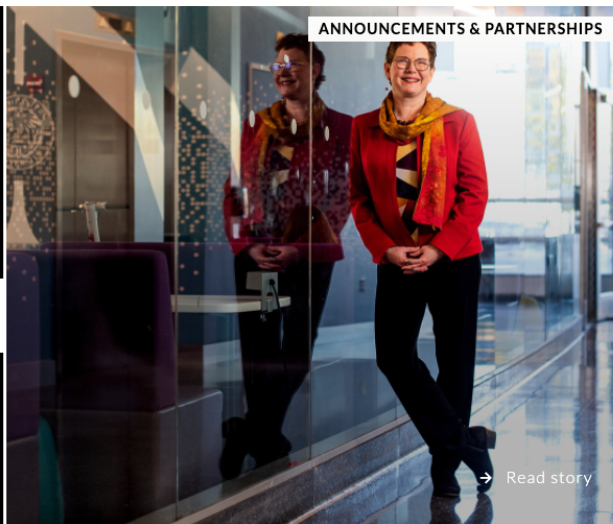
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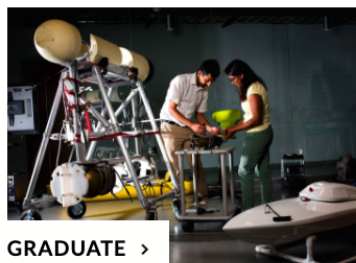
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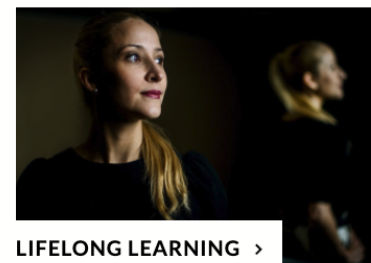
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Summary - CSS Grids

- We used `grid-template-areas` in the past
- For multi-column layout
 - Can use `grid-template-columns`
 - With `repeat()`
 - For evenly sized columns
 - Optionally `gap`
- `grid-column`
 - Can take `span` to span cells
 - Can use `/` to range from/to boundaries

Summary - 12 column grid

- Many grid layouts exist
 - Can be done without CSS Grids
 - But why?
- 12 column very common in web dev
 - Allows for different splits
- Grids are naturally responsive

Summary - Adaptive Grids

Grids can make it easy to have adaptive breakpoints

- Change the number of total columns
 - Items will "wrap" to different rows
- Change the span of different items
 - Will be a reasonable size

You can have multiple adaptive breakpoints