## CS7025: Programming for Digital Media

<table>
<thead>
<tr>
<th>Module Code</th>
<th>CS7025</th>
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<tbody>
<tr>
<td>Module Name</td>
<td>Programming for Digital Media</td>
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<tr>
<td>Module Short Title</td>
<td>N/a</td>
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<tr>
<td>ECTS weighting</td>
<td>10</td>
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<tr>
<td>Semester/term taught</td>
<td>Semesters 1 and 2</td>
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### Contact Hours
- Semester One – 11 two-hour lectures, 11 hours lab, 20 hours assignments
- Semester Two – 11 two-hour lectures, 11 two-hour lectures, 22 hours lab, 20 hours assignments

### Module Personnel
- Gabriele Pierantoni

### Learning Outcomes
Students with no programming background will be given the knowledge and confidence to tackle small-scale programming projects using the JavaScript and Python languages. The emphasis on browser-based programming examples means that students will also be familiar with many typical techniques for producing interactive effects in web-based applications. Students will also be aware that the core programming techniques can be applied to other programming languages, and are therefore prepared for technologies introduced on later courses on the degree programme.

On completion of this module, students will be able to:
- Understand different software and hardware platforms
- Be familiar with basic programming techniques
- Understand object oriented programming, Python, and JavaScript
- Know the network model for the Internet
- Understand client/server programming
- Program applications for mobile platforms

### Module Learning Aims
- Give a good grounding in the design and structure of the modern Internet
- Illustrate suitable techniques for standalone and Client-Server programming
### Module Content

**Semester One:**
- Programming concepts
- Variables and data storage
- Statements and flow of control
- Functions and modularity
- Input and Output
- Animation and reactive programming
- Introduction to Object based programming

**Semester Two:**
- The design and structure of networking.
- The five-layer network model of the Internet.
- Technology for Client/Server programming in a networked environment.
- Introduction to server-side scripting.
- Introduction to database technology.
- Software design issues in network applications.
- Development for mobile platforms

### Recommended Reading List

**Semester One (suggested):**
1. David Flanagan: *JavaScript: The Definitive Guide*
2. Doug Crockford: *JavaScript: The Good Parts*
3. Paul Vickers: *How to think like a programmer*

**Semester Two (suggested):**
- David, Michele E. and Phillips, Jon A.: *Learning PHP & MySQL*, O'Reilly

### Website

[http://mymodule.tcd.ie/](http://mymodule.tcd.ie/)
<table>
<thead>
<tr>
<th>Assessment Details</th>
<th>Assessment is by continuous assessment (weekly labs, individual and group projects, and in-class tests).</th>
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<tbody>
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<td>Module approval date</td>
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