

# ICT Skills / Summer School



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## Programme for 2017

This course will be an introduction to developing web applications using Javascript, Node.js, Express.js using a new and new development environment called Glitch (previously called Gomix). From the people who founded Stackoverflow, Glitch is a very exciting new way of thinking about web development:

- <http://glitch.com>

It delivers a platform to build web applications using standard node+javascript approach, entirely within a web browser. It includes automatic and continuous deployment of the applications as you author them. Visit the site above, or read about the platform on medium here:

- <https://medium.com/glitch>

You could also listen to this podcast to get an overview of the context and goals of the project:

- <https://devchat.tv/js-jabber/gomix-with-daniel-x-moore>

Knowledge of programming fundamentals is assumed, although not necessarily expertise in Javascript. The course will introduce Glitch, Node.js and Javascript as it progresses - exploring the fundamentals of each domain as needed. The focus will be hands on, building apps immediately - and catching up on the core language and web framework technology as we progress.

Most of the course will be via self directed labs - which will be released each week. A live session offering context for these labs + and general talks on the material will also be scheduled each week. This can be viewed live in any browser, or via catch up later. Additionally, there will be a chat room, attended by the instructor for additional consultation.

### Schedule

Commence Tuesday May 30, 2017 and concluding Wednesday June 28 - a total of 5 weeks. Each week will be structured as follows:

<i>Day</i>	<i>Time</i>	<i>Mode</i>	<i>Location</i>
<b>Tuesday</b>	9:30-11:00	Live Online Webinar	Moodle/Adobe Connect
<b>Wednesday</b>	2:00-4:00	Live Lab Chatroom	Gitter/Slack

All material will be published via Moodle Edge/Github, and there will be an accompanying Slack/Gitter channel.

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## Programme Detail

<b>Week</b>	<b>Lesson Plan</b>	<b>Javascript Topics</b>	<b>Web Development Topics</b>
<b>1</b>	Become familiar with the Glitch Environment, build some simple apps. Review the basics of the Javascript language	Context, Variables, Boolean Logic	Glitch tour + Features
<b>2</b>	Discover the front-end/back-end nature of the glitch environment. Build an app routing, simple view and including templating. Explore the basics of Objects in Javascript	Objects, JSON, Storing & Retrieving Objects	Web App Introduction, Front End, Back End. Templating.
<b>3</b>	Review Javascript arrays in depth. Explore the MVC paradigm, and implement a simple Form in a Glitch app.	Array basics, Array methods, array iteration, arrays of strings & objects	Model View Controller, Form Design & Programming
<b>4</b>	Investigate the structure of Javascript Objects in more detail, particularly their dynamic nature. Incorporate sessions management into web applications	Objects in Detail	Sessions. Using Sessions in Express.
<b>5</b>	Review Javascript Functions in depth. Learn how to consume an external service from a web application (image storage).	Functions in Depth	APIs for Image Manipulation & Storage