

DevPoint Labs

Winter 2016 Handbook

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Web Development Curriculum

Objective

In 11 weeks, teach, mentor and prepare students to take on a junior/entry level full-stack web developer role. Students will be familiar with web development concepts, frameworks, programming and processes.

Core Goals

FOUNDATIONAL PROGRAMMING SKILLS

The primary language of focus is **Ruby**, but students should also have familiarity with **Javascript**. Students should be able to use both languages to solve problems. Some of the specific knowledge students should have includes using loops and conditionals, understanding the different **data types** (strings, booleans, hashes, arrays, symbols, etc.), understanding and using **functions/methods**, **Ruby classes**, **Ruby modules**, **Javascript objects** and the basics of **Object Oriented Programming**.

UNDERSTANDING THE BASIC WORKINGS OF THE INTERNET

It is necessary to understand the basic workings of the internet: **HTTP protocols**, basic **client/server interactions** and **HTTP response codes**.

CREATING COMPLETE WEB APPLICATIONS USING RAILS

The entire purpose of the course is to get students to the point where they can effectively use the Rails framework to create full-stack web applications from start to finish. This includes using and understanding:

MVC Structure: Models, Views, Controllers

Back End: SQL, PostgreSQL, Active Record, Ruby, etc.

Front End: HTML, CSS, Bootstrap, JavaScript, etc.

DEVELOPING THE CHARACTERISTICS OF SUCCESSFUL PROGRAMMERS

The course isn't only about bestowing technical knowledge to the students. The students will also improve on their softer skills. Skills such as collaborating in groups and in pairs, using effective communication, problem solving, working independently, project planning and effective internet searching.

Tools of the Trade

- Laptop: Mac OS X or Linux required
- Chrome, Firefox and Safari
- Sublime Text Editor
- iTerm
- Ruby: MRI 2.1.*+
- Rails: 4.1.*+
- Rubygems
- RVM

Program

The program is divided in two parts: lecture and hands on practice. This will provide a balanced education experience to better prepare students for employment. We will also be inviting guest speakers that are experts in their field to provide additional content and perspective.

Syllabi

Syllabuses will be provided for each month of the course. The tripartite divisions of the course will look like this:

Weeks 1-4: Ruby, Core Rails

Weeks 5-8: Javascript, RSpec, Advanced Rails, Begin Capstone Projects

Weeks 9-11: Advanced Tools and Skills, Capstone Projects

Assignments

Assignments will come in one of four forms: Exercises, Homework, Projects, or Quizzes.

Exercises:

Exercises are smaller problems or tasks to be completed in class. These will typically be programming challenges or feature additions to projects. Exercises will cover material discussed that day or week.

Homework:

Homework assignments can vary. Sometimes they will be to finish the classroom exercises of the day. Sometimes they will be additional exercises or optional bonus exercises for students looking for additional challenges. There will also be frequent reading assignments designed to prepare students for the materials being covered on the following day.

Projects:

Projects are larger tasks to be turned in on a due date. Projects will cover material discussed in class and may require a bit of research to figure out and complete.

Quizzes:

Quizzes will be administered weekly, covering concepts taught that week. Quizzes are designed to provide metrics for student learning and to emphasize the concepts that are most important.

Student Expectations

ATTENDANCE AND PARTICIPATION:

Students are expected to be in class **everyday**. Students are expected to be **on time** for class everyday. The course is fast paced and demanding. Missing instruction places additional burden on the student to catch up on the missed material. It also places additional burden on the staff to spend time and energy trying to teach the student the materials that they missed.

Life happens, of course, and there will be times that students are unable to attend class or miss portions of class. The expectation is that absences will be kept to an absolute minimum. The course is only 11 weeks long, and every day of instruction is important. If students need to miss a class or will be late, they are expected to **inform the instructors in advance**.

Merely attending class is not enough to ensure student success. Students are expected to be **attentive** and **participate** during lectures, activities and projects. Learning is an active process that does not occur without deliberate effort.

COLLABORATION WITH YOUR PEERS

Throughout the course, students will be expected to work in groups. This is intended to enhance student learning and in some ways simulate interactions in workplace environments. All students are expected to be responsible participating communicative members of their groups.

UTILIZE THE SUPPORT AVAILABLE

Student support is plentiful. At any given time during class hours, there should be three to six people (Instructors and TAs) there for the purpose of supporting student learning. Students are expected to ask for help when they need it. The role of the support staff is not to merely give students answers, but to promote student learning. This means that the staff may help by asking students a series of questions to guide them towards the answers they seek.

In addition to the support staff available during classroom hours, there will be many times that mentors from the programming community will volunteer their time after hours to further facilitate student learning. Students are highly encouraged to utilize the mentorship provided. If students do not utilize the mentors, they become disinterested in volunteering their time and students will lose a valuable resource.

MINDSET AND APPROACH

Students are expected to take control of their own learning. Learning to program requires hard work, perseverance, a strong desire to learn and the emotional maturity and fortitude to work through all the challenges the course will present.

Students are expected to be **determined** to work through problems on their own or with their peers. But at the same time, students should not be so determined or stubborn that they don't seek assistance when they need it. There is great learning value in struggling alone with difficult concepts and problems, but there is also great value in consulting with your peers, mentors, TAs and instructors. Below is a guideline for how to approach handling errors to help illustrate the kind of balance between struggling alone and asking for help that is expected of the students.

Error Handling:

1. Read the logs closely and debug within your app. We will show you where to look for error messages and how to read them.
2. Follow the progression of events in the code and try to locate, identify and fix the error.
3. If the error persists, Google the error. Perhaps others on Stack Overflow have encountered this error and have solution suggestions.
4. Ask a peer or a programming partner.
5. Check applicable online documentation. eg. Rails Guides, Ruby Docs, W3Schools, etc.
6. If you have gone through the previous steps, please ask an instructor or teaching assistant.

Staff Roles

Lead Instructor - Jake Sorce & Dave Jungst

The Lead Instructor's primary responsibility is to teach the course content through lecture and guided practice. Typically, the Lead Instructor's lectures will take place in the mornings and they may or may not be available the remainder of the day.

Teaching Assistants - Rosie Thomas, Arleigh Atkinson, Christian Fuller, Parker Bond

The Teaching Assistants (TAs) provide additional support for the students. All of them have previously completed DevPoint's Full Stack course and are in class to provide one on one support as the students engage in classroom exercises and assignments.

The Lead Teaching Assistant is available at any time during the class. The rest of the TAs typically are available after lunch until the end of class.

Administrators -

Co-founders - Nhi Doan, Ty Diamse

Bean Counter - Will Liang

The DevPoint Administrators will not have a direct every daily role in the student experience. They will from time to time contribute to lectures, conduct mock interviews, and provide general support for student activities and events. The Administrators operate largely behind the scenes to support student learning.

** Mentors ** -

DevPoint Labs is fortunate to have a growing community of professional developers who are willing to **volunteer** their time to help students. Mentors are usually available a few nights a week, after normal class time, and during special events like hackathons. We will try to make

students aware in advance when mentors will be available. It is preferable if students reserve a time slot with a particular mentor prior to mentor arrival.

Students are strongly encouraged to utilize the mentors for the great resources that they are. Students can ask about specific class content that they are struggling with or about the mentors' experiences in the web development industry or for advice regarding entering the programming workforce.

What to Know

#1 - Lots of stuff in the works.

Below is the general outline of what to expect in the quarter, but keep an eye out for future events and activities in Slack. There will be MeetUps and special events that will be worth attending.

#2 - 24/7 Access to Church & State.

From the first day of class to Launch Day, you will have 24/7 access to the building. Feel like some late night coding and too tired to go home? Just crash here, it can be your second home. The door code is 1893.

#3 - Stay safe!

Be smart and be aware of your surroundings. We haven't had any specific safety issues in the area around Church and State, and we want to keep it that way.

#4 - Office hours and mentorship.

Take advantage of office hours when they open up and schedule time with mentors when they're announced. Our mentors volunteer to be here so don't be too hard on them.

#5 - Set Yourself Up for Success

- For most this will be a tough class and instruction will move at a quick pace.
- Do not miss class!
- Mentors and TA's are here to help you so don't be afraid to ask questions. Don't do yourself the injustice of paying for a course and not using all of the support provided.
- We've all been in your shoes and want to see you grow! And last but not least, programming is like any other skill, the more you develop, the better developer you will be because ultimately **your education depends on you!**

#6 - Perks

- Green Bikes - We have four green bike cards for everyone to share. Green Bike stations are scattered throughout the downtown area. Feel free to use them as you see fit. They may only be

checked out for an hour at a time. Be sure to share well with your classmates.

- Lounge - The lounge is for you to use. We have some video games, board games and cards. There is a small fridge if you want to keep any beverages there. NO FOOD please in the lounge fridge. If any food is found there, it will be thrown away. Food can be stored in the kitchen.
- Kitchen Access - Snacks and beverages are available in the basement kitchen for the students. You can also bring in your own food and store it in the kitchen fridge. Just keep in mind that the fridge is shared with others.

Class Schedule

Web Development Start & End Date

Nov. 16th, 2015 - Feb 5th, 2016

Monday through Friday

Daily Class Schedule

Morning Review

9:30 AM - 10:00 AM

Instructional Learning

10:00 AM - 12:30 PM

Lunch

12:30 PM - 1:30 PM

Project Based Learning

1:30 PM - 5:30pm

Event Schedule

Thanksgiving break: Nov 25th - 27th

Student vs Staff Bowling Classic: Nov 24th

Hackathon #1: Dec 19th

Secret Santa/Ugly Sweater Christmas Party: Dec 22nd

Christmas/NYE break: Dec 24th - Jan 3rd

Hackathon #2: Jan 16th

Launch Day: Feb 5th

Rules of Conduct

#1 - Mr. Sparkle

Cleanliness is next to godliness. We are not your mommy so please if you make a mess, clean it up!

#2 - RESPECT ☺

Whether you feel like a seasoned pro by week 8 or are still a young padawan in programming, you will always learn something if you pay attention in class. Please **respect** the time and effort instructors have put into their lesson plans; and also each other.

#3 - Punctuality

The course moves at a quick pace so be on time so that the instructor can start promptly and

seamlessly.

#4 - Own Your Education

You'll find that your **success is directly proportional to the amount of effort and commitment** you make to the assignments, exercises and projects.

Emergency Procedures

We will give you a tour of all exits on day one. Please be careful of your surroundings. We are not liable for any "acts of stupidity."

Non-Emergency Contact (SLC Police Department)

(801)-799-3000

Emergency Contact

9-1-1 (Standard rates apply)

Contact Info

DevPoint Labs Phone Number:

(801)-448-7240

E-mail:

Ty@devpointlabs.com

Nhi@devpointlabs.com

Will@devpointlabs.com

Arleigh@devpointlabs.com

Jake@devpointlabs.com

Parker@devpointlabs.com

Dave@devpointlabs.com

Christian@devpointlabs.com

Jeremy@devpointlabs.com

DISCLOSURE

REGISTERED UNDER THE UTAH POSTSECONDARY PROPRIETARY SCHOOL ACT (Title 13, Chapter 34, Utah Code)

Registration under the Utah Postsecondary Proprietary School Act does not mean that the State of Utah supervises, recommends, nor accredits the institution. It is the student's responsibility to determine whether credits, degrees, or certificates from the institution will transfer to other institutions or meet employers' training requirements. This may be done by calling the prospective school or employer.

The institution is not accredited by a regional or national accrediting agency recognized by the United States Department of Education.