FOUNDING MEMBER OF

Hack Reactor San Francisco

Outcomes Report

October 2017

HACK REACTOR

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“Employment statistics are important across higher education, but they’re especially important for immersive schools, which need to deliver. Hack Reactor is proud to be a leader in transparency and will continue to put our students and alum first.”

— Shawn Drost, Co-founder

Introduction to Student Outcomes

Student outcomes are paramount when it comes to education, and especially in the coding bootcamp industry - now more than ever. With little barrier to entry, today there are many coding bootcamps, with a tremendous range in quality between programs.

On one hand, there are powerfully transformative programs such as Hack Reactor. On the other end of the spectrum, there are many programs that do not deliver on their basic promise to students.

How can students assess the true quality of a school, and whether it produces the results they seek?

The answer lies in quality outcomes reporting.

The vast majority of students attending a full-time coding immersive do so in order to gain a job as a programmer. As such, Job Placement Outcomes rank as the most important factor for students when choosing a coding bootcamp.

Prospective students must ask schools they are considering the following questions:

1. What are the school’s outcomes statistics?
    - e.g. Placement rates and average salaries
2. What program and campus are those statistics specific to?
3. Are there detailed and transparent reports / data to validate those claims?

4. Are there caveats and exceptions to their employment numbers? Or are they using the quality reporting standards prescribed by CIRR?

Schools that produce real results for students aren't afraid of transparency.

Hack Reactor was one of the first schools to release its outcomes statistics, and to publish detailed, transparent data to reinforce its claims. We will always put our students first and commit to delivering the highest quality outcomes and outcomes reporting.

CIRR: The Highest Standard for Reporting Student Outcomes

The code school industry has grown explosively because students and employers need the skills bootcamps provide. But to stay strong, schools need to deliver the skills that yield long-term professional opportunity. Clear, simple, validated reporting is how we know the system is working.

COUNCIL ON INTEGRITY IN RESULTS REPORTING
STUDENTS FIRST

In March 2017, the largest coalition of accelerated learning programs formed **The Council on Integrity in Results Reporting (CIRR).**

CIRR media mentions:

THE WALL STREET JOURNAL. WSJ	TechCrunch	Chicago Tribune

CIRR is the new industry gold standard for educational outcomes reporting and truth in advertising. Hack Reactor is proud to be a founding member of CIRR, leading the path to reporting standardization in the coding bootcamp industry.

All students who are interested in attending a bootcamp:

1. Can trust the data presented by CIRR-member bootcamps, and

2. Should question the reporting practices for graduation and job placement data of those programs who do not follow CIRR's standards and methodologies.

The key difference between CIRR and every other coding bootcamp's reporting method is there are no reporting exclusions. If you enroll in a CIRR school, you will be counted in their placement rate, regardless of graduation status or personal decisions. This means you can skip the fine print. This is simple, straightforward, and telling.

All coding bootcamps are invited and welcome to join us, provided they commit to the strong standards of outcomes reporting mandated by CIRR. These commitments include: publishing detailed and complete outcomes data semi-annually, obtaining third party verification and marketing outcome statistics that are honestly calculated using CIRR's "un-gamed, no exceptions" guidelines.

Understanding Differences in Reporting Standards

With nearly 100 coding bootcamps in the US and the number continuing to grow, many schools state their job placements and claim transparency to stick out from the pack. But if you take a closer look, many schools use complex methods that exclude certain students from being calculated.

To truly stick out from the pack, coding bootcamps need to be strict with their outcomes reporting and hold themselves accountable. For students, the first step to understand outcomes reports is to see standards of different schools.

Bootcamps with Outcomes Reports

Figure 1: *Comparing outcomes reporting standards*

✅ Indicates transparent and strict outcomes reporting

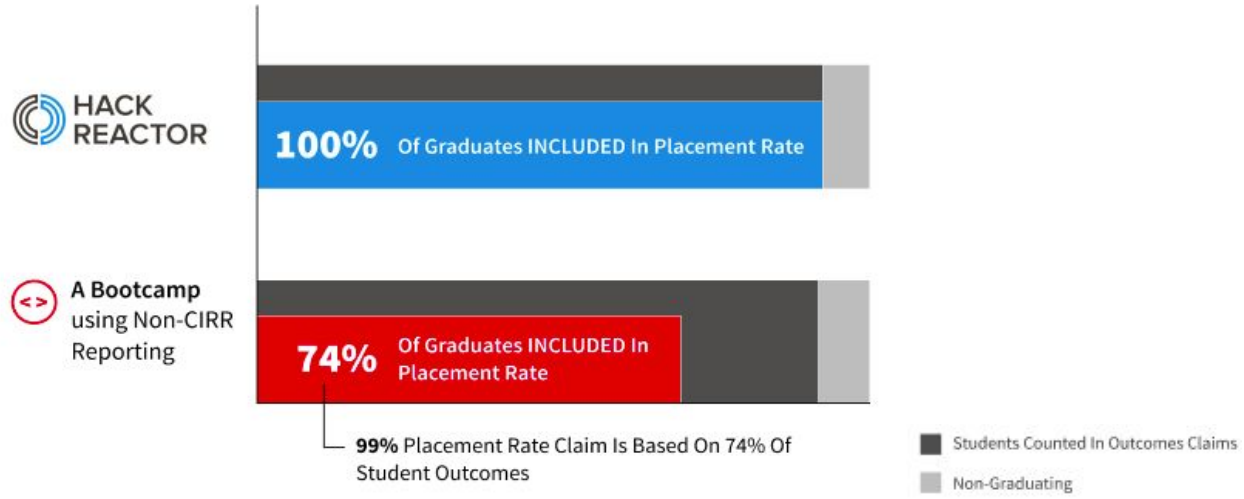
❗ Indicates historically unreliable practices excluded by CIRR

	Most Strict	Examples of Less Strict Standards	
	Hack Reactor / CIRR [1]	**Example Bootcamp I**	**Example Bootcamp II**
Graduates considered in placement rate	✅ 100% of enrolled students, except if died,	🟡 "Graduates available for employment" -	❗ Graduates who "participate in career services" - excluded

	incarcerated, or called into active military duty	excludes certain international students and certain students continuing education	26% of graduates in 2014-2015 report
Outcomes included in placement rate	✓ Part-time, short-term positions and entrepreneurship not counted for in-field placement rate Only includes jobs the student reports as requiring the skills taught	! Part-time, contract positions and entrepreneurship counted in placement rate Includes all roles "relevant" to the curriculum	! Short term contracts, internships and apprenticeships counted in placement rate Includes employment "in a [training] related" occupation or return to previous employer "utilizing new skills learned through course participation"
Specificity	✓ By Campus	! Aggregated	! Aggregated
Graduation Rate	✓ Clearly stated	● Unclear	✓ Clearly stated

Source:
1. CIRR Standards & Implementation Guidelines Rev. 2-26-17
(https://f7eea198803e20f1a6cb-cd07fb533ce2420564de815633c944f7.ssl.cf2.rackcdn.com/bd4007f998ca4704b94d5073565756cb.pdf)

Figure 2: *Comparing different reporting methods and which data is included in placement rate*



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Bootcamps Without Outcomes Report

Evaluating differences in reporting standards is not the only piece of pie you need to think about when choosing bootcamps. You also need to make note of bootcamps *without* an outcomes report.

In 2016, Bloomberg reported that Coding House, a coding bootcamp advertising numbers typical for the industry--95% hiring rate at a $91,000 average starting salary--was shut down by regulators for making false statements. Their claims lacked detailed reporting or transparency and review of outcomes data by regulators showed major discrepancies between their claims and their actual outcomes performance.

Stories like this underscore a deeper problem in the coding bootcamp industry: false advertising.

Prospective students need to proceed with caution when shopping around. To avoid illegitimate programs and undocumented claims, students need to look for bootcamps that regularly disclose outcomes reporting, not just topline stats.

With the addition of CIRR and its 17 members in the coding bootcamp industry, students can feel more confident about their decision. Truth in advertising and regularly publishing student outcomes is the only way to be transparent and build trust with students and the public.

As a prospective student, how can you help bring legitimacy to the coding bootcamp industry? Sign our petition to bring credibility and accountability to all coding bootcamps!

Sign the Petition

Hack Reactor: Leading the Industry

Hack Reactor's vision is to transform higher education to be more transparent, accessible and outcomes-driven. We are committed to being the leading coding immersive in terms of quality, student experience and student outcomes.

In 2012, we pioneered the world’s first JavaScript immersive. Since then, reviews and rankings have consistently put us as one of the leading coding bootcamps in the world.

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Quora ★★★★★	★★★★☆	yelp ★★★★★
TechCrunch	CNBC	FORTUNE
TECHCO “Top Coding Bootcamp”	TechBeacon "the Harvard of coding bootcamps"	TRAINING INDUSTRY “Top Coding Bootcamp”

We were one of the first coding bootcamps to disclose our outcomes statistics and publish a transparent, independently-validated outcomes report. In 2016, we led the industry by announcing the strongest and strictest system for tracking and reporting student outcomes, known as the the Standard Student Outcomes Methodology (SSOM).

Our movement reached new heights in 2017, with the founding of CIRR alongside the largest coalition of immersive programs in history to standardize results reporting and truth in advertising.

We’re Proud to be First in Outcomes

“Hack Reactor grads are our first choice. The best coding bootcamps simulate a real-world software environment for their students; the grads are so well-prepared, they come in and hit the ground running, that’s really what we’re looking for.”

– Dustin B., Cisco

Hack Reactor invests heavily in outcomes. Not only are we are leader in outcomes transparency, but also outcomes performance. How do we do it?

In a sentence, we reverse-engineered our immersive to produce top talent.

Our curriculum designers are former Engineering & Hiring Managers from some of top tech companies, now training people they would hire. We teach industry-relevant skills and engineering practices, and we go beyond coding. Hack Reactor builds heavily from Computer Science fundamentals & first principles - teaching you to not just code, but to truly think like an engineer.

We attract great students given our position as one of the best bootcamps, and we carefully select students who are motivated and able to succeed. Students go through strong pre-work, allowing us to go further during the immersive. The depth of each of our curriculum modules are like no other, and over four years, we have built extensive systems and practices to maximize student success.

Hack Reactor San Francisco

Hack Reactor San Francisco has been creating leading software engineers since 2012.

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“I’m really glad I chose Hack Reactor. Even from the pre-work and check-ins, Hack Reactor has a clear support system. If anything, I’m more impressed than I thought I would be.”

— Preethi Kasireddy, Hack Reactor San Francisco Graduate, now at Coinbase

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Campus Highlights

Top Rated Coding Immersive in San Francisco

Google		yelp
★★★★★	★★★★☆	★★★★★

Leading Outcomes in San Francisco

Hack Reactor San Francisco is the only coding bootcamp in San Francisco who is a CIRR member - a coalition of bootcamps committed to transparent, campus-specific outcomes reporting using strict “un-gamed” standards.

We encourage readers of this report to use Linkedin to objectively examine the top companies where the alumni of various coding bootcamps get placed.

Here’s Hack Reactor’s results in the San Francisco Bay Area:

Figure 1: *Top companies hiring Hack Reactor alumni in San Francisco*

Uber ●●●●●●●●●●●●●●●●	**Google** ●●●●●●●●●●●●●	**JPMorgan Chase** ●●●●●●●●●●	**Linkedin** ●●●●●●●●●●●●●
Walmart Global eCommerce ●●●●●●●●●●●●●	**Yahoo! Inc.** ●●●●●●●	**Apple** ●●●●●●●●●	**Vevo** ●●●●●●●
Facebook ●●●●●●●●●●●●●●●●	**OpenTable** ●●●●●●	**Capital One** ●●●●●●●●	**PayPal** ●●●●●●●●●●●

(●) *Dots indicate number of alumni present per Linkedin*

We are proud to share the salaries obtained by graduates of Hack Reactor San Francisco. In conformance with CIRR standards, we show:

- Our salary distribution: So readers can transparently see the range of results obtained
- The median salary: Unlike an average, the median figure expresses the salary obtained by a "middle" graduate and does not get skewed by extremes in the dataset
- Base salary only: We do not skew reported compensation by adding in bonuses or value of equity

Figure 2: *Hack Reactor San Francisco Salary Distribution*

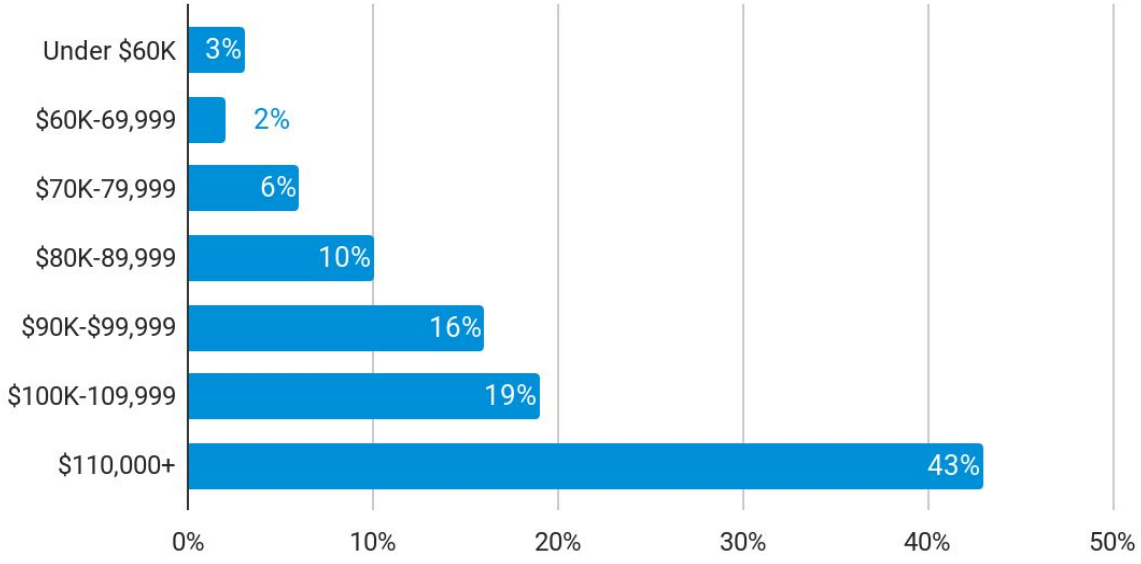
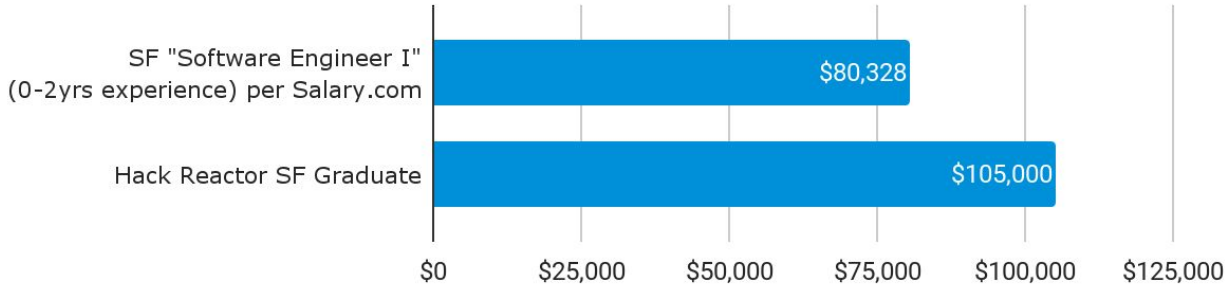


Figure 3: *Hack Reactor San Francisco Median Salary*

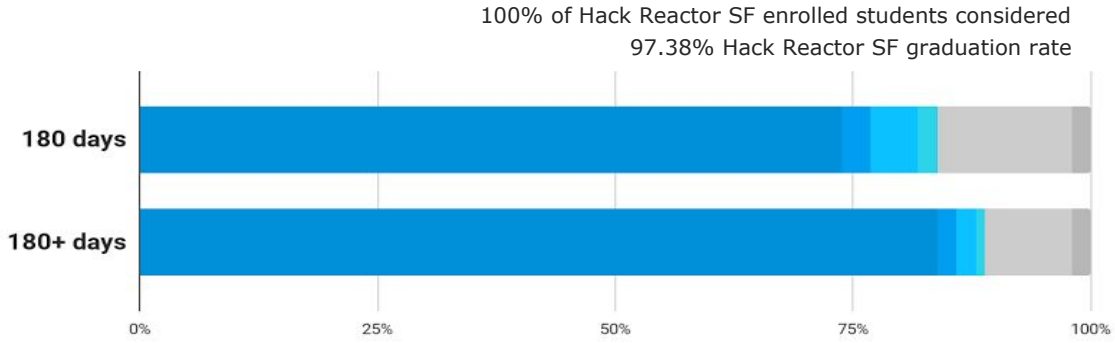


Disclosures:

* Percentage of reported salaries displayed: 100%
* Percentage of job obtainers who reported salaries: 81%

Hack Reactor includes 100% of every student in their placement rate data. This provides prospective students with the ability to see radical transparency and honest employment results.

Figure 4: *Every single student at Hack Reactor San Francisco, without exceptions*



	180 days	180+ days
Selected a full-time, in field position	73%	83%
Pursuing entrepreneurship full-time in lieu of searching for a job	3%	2%
Selected a contract or part-time position	5%	2%
Selected a position not in-field	2%	1%
Not yet employed at 180+ days, for any reason, including delay of search	14%	9%
No plan to pursue employment, due to personal reasons or other objectives	2%	2%

Hack Reactor SF - CIRR Standardized Outcomes Report

I. Report Information	
School Name	Hack Reactor San Francisco
Campus Location	944 Market St. San Francisco, CA | 611 Mission St 2nd Fl, San Francisco, CA
Reporting Period	7/1/2016 12/31/2016
Published Course Length	91

II. Graduation Requirements

- Complete all course modules and
- Complete final project
- Meet with career services counselor
- Attend 2 school-sponsored career events during course

III. Graduation Data	
How many students graduate within 100% of published program length (on-time)?	97.11%
How many students graduate within 150% of published program length	97.38%

IV. What were the employment results for graduates?	90 days	180 days	180+ days
1. Employed in paid, in-field positions	**39%**	**73%**	**83%**
A. Full-time employee	37%	70%	80%
B. Full-time apprenticeship, internship, or contract position	1%	2%	2%

C. Hired by school in-field	1%	1%	1%
2. Employed in other positions	**7%**	**10%**	**6%**
A. Started a new company or venture after graduation	3%	3%	2%
B. Short-term contract or part-time position	4%	5%	2%
C. Hired by school out of field	0%	0%	0%
D. Out of field	1%	2%	1%
3. Not employed	**52%**	**16%**	**10%**
A. Unemployed and still seeking a job	50%	14%	9%
B. Unemployed and not seeking a job	2%	2%	2%
4. Non-reporting	**1%**	**1%**	**1%**
What is the median annual base salary of graduates with paid, in-field jobs?	**$106,500**	**$105,000**	**$105,000**
Under $60,000	4%	3%	3%
$60,000-69,999	1%	2%	2%
$70,000-79,999	5%	6%	6%
$80,000-89,999	10%	10%	10%
$90,000-$99,999	16%	16%	16%
$100,000-109,999	16%	19%	19%
$110,000+	48%	43%	43%

Percentage of job obtainers who reported salaries	81%	81%	81%

V. What were the most frequent job titles for graduates?	
Software Engineer	36%
Software Developer	28%
Front-End Engineer	15%
Full-Stack Engineer	11%
Web Developer	9%
Developer	9%
UX/UI Designer	6%
Project Manager	5%
QA/Tester	2%
Hacker in Residence (TA at Hack Reactor)	1%
Analyst	1%

VI. What percent of incoming students held a prior computer science degree?	Not computed

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Hack Reactor San Francisco

Outcomes Report

October 2017

APPENDIX

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CIRR Standards & Implementation Guidelines

1. Initial Preparations

Review and duplicate the Report Spreadsheet Template. Duplicate all sheets labeled "template" for future reference, then rename the original sheets and clear the data. If school has multiple campuses and/or programs, report separately on each campus/program.

Fill in Section I and Section II of the Cover Sheet. Observe the following requirements:

The reporting period must be either 1/1-6/30 or 7/1-12/31 of the chosen year.

Input a Published Course Length in calendar days such that the following statement is true: If a student needs to repeat a module/section prior to meeting the graduation criteria, he or she should not count as graduated in 100% of the program length.

If the program is self-paced, write "self-paced" in the "course length" field, then replace the section labeled "II. Graduation Data" with the below rows.

2. Build a Student List

2A. Programs with a published length

- Build a list of all cohorts that graduated during the reporting period, and list them along with their graduation and start dates on the Cohort List tab.
- List each student that "enrolled" (see below definition) in any of those classes in the Student List tab.
    - This student list should include all students that originally enrolled in an earlier cohort, then subsequently transferred to a cohort on the list. It should also include all students that originally enrolled in a cohort on the list, then subsequently transferred to a later cohort.
- Update the list of students to reflect which students are "graduates" (see below definition).
- The list should note which students held a prior computer science degree prior to enrolling into the program. (Schools need not report this for 2016 cohorts if they did not collect the information at the time of a student's enrollment.)

The spreadsheet should now accurately report the graduation rate within 100% and 150% of the program length.

2B. Self-paced programs (with variable end-dates chosen by the student)

- Build a list of all students who enrolled 12 months prior to the reporting period's start date until 6 months prior to the reporting period's start date. For students who have multiple start dates (pauses, cancellations then return), use their earliest start date.
- Report the graduation rate by dividing the total number of graduates from the dataset by the total amount of enrollments from the dataset.
- Report the time to graduate as a table by dividing the number of graduates in 6 30-day periods by the total number of students from Step 1.
- Add a row counting the students who graduated after 180 days divided by the total number of students from Step 1.
- Add a row counting the students from Step 1 that are still enrolled as of the reporting end date divided by the total number of students from Step 1.
- Add a row counting the remaining percentage of students (those who did not graduate the program nor are enrolled as of the reporting end date).
- The list should note which students held a prior computer science degree prior to enrolling into the program. (Schools need not report this for 2016 cohorts if they did not collect the information at the time of a student's enrollment.)

It is recommended that the producer of this list produce notes on how this list was created, such that a second team member could reproduce this student list.

Definition of "enrolled": All students in a course as of (i) the final date under applicable state regulations on which the school is required to provide the student with a full tuition refund, or (ii) if applicable state regulations do not contain such a requirement, the final date as specified in the school's published policies on which a student may receive a full tuition refund. The full tuition refund may exclude nominal non-refundable registration fees. Enrolled students do not include students who died, became incarcerated, or were called into active military duty during the course, but the student list should contain documentation supporting that classification. In the case of self-paced programs dealing with students with multiple start dates (who may return after pausing or dropping out) should only be counted using earliest start date.

Definition of "graduate": All students who received a certificate of completion, or who meet the policies listed in Section II of the school's report. For all cohorts, beginning with the first cohort following the school's first CIRR report, the school must clearly publish its requirements

for a certificate of completion, and include them as part of their enrollment agreement with students.

1. Assign Outcome Codes and Compute Salary Data

Assigning outcome codes is the bulk of the work in producing an employment report. The subsections of this step cover the process in detail. In summary: review each entry in the Student List and assign an Outcome Code to that student by reviewing the documentation available for that student.

3.1. Determining Outcome Codes

For each student that will be included in the placement data, run down the below list of outcome codes. If documentary evidence is available to assign that code, according to the Required Documentation in Section 3.2, assign the corresponding outcome code. If documentation is not available and cannot be collected, or if documentary evidence does not meet the requirements in 3.2, move to the next assertion in the table. (This may result in counterintuitive results. For instance, if a staff member recalls a student getting a paid, in-field job -- "1A" outcome code -- but no qualifying documentation can be found or gathered, they may be classified as "4".)

The order of the steps is intentional, and reflects the CIRR process. Students that accept a full-time offer after doing some contract work, they should be reported as 1A and not 2B. By following the steps in order, the report will reflect that, because 1A comes before 2B in this table. (For the avoidance of doubt: 1C is above 1A in the below table because any qualifying offer from the school should be reported as such, not as a general full-time hire. 3A is last on the list because it is the default, and should not be assigned if documentation supports another code.)

Schools must account for 100% of their graduates under the following categories.

Outcome Codes				
Step	**Category**	**Outcome**	**Code**	**Required Documentation**
1	Employed in full-time, paid, in-field positions	Hired by school in-field	1C	Qualifying accepted offer
2		Full-time employee	1A	Qualifying accepted offer
3		Full-time apprenticeship, internship, or contract position	1B	Qualifying accepted offer
4	Employed in other positions	Started a new company or venture after graduation	2A	Graduate attestation
5		Short-term contract or part-time position in-field	2B	Qualifying accepted offer
6		Hired by school out of field or temporary	2C	Qualifying accepted offer
7		Out of field	2D	Qualifying accepted offer
8	Not employed	Unemployed and not seeking a job	3B	Graduate attestation
9		Non-reporting	4	Outreach record
10		Unemployed and still seeking a job	3A	No documentation required

3.2. Types of Documentation

"No documentation required" (3A) -- Any graduate may be classified as "Unemployed and still seeking a job", with no further documentation. This is the default categorization for all job seekers when no other outcome code can be supported by required documentation.

"Graduate Attestation" (2A, 3B) -- Graduate states, in writing, the below.

- 2A: Graduate is pursuing entrepreneurship full-time in lieu of searching for a job. The endeavor may be for-profit or not-for-profit.
- 3B: Graduate is not pursuing employment because he or she (a) took the program solely for self-enrichment, (b) has had a medical or family emergency arise post-graduation, (c) is continuing education at another institution, or (d) does not have a visa to work in the country in which took the program. (For the avoidance of doubt: if a non-visa holder finds work, in or out of the country where they took the program, they would more likely be categorized as another code.)

"Outreach Records" (4) -- Documents establishing that the school attempted to contact the student a minimum of four (4) times through two (2) different means of communication, and the student never responded. This documentation shall include the dates of the attempted contacts and the student's contact information used in those attempts.

"Qualifying Accepted Offer" (1A-C, 2B-D) -- Must meet the common requirements (for all outcome codes) as well as the specific requirements for each outcome code. Use common sense to distinguish between offers from the school and offers that are not from the school.

Common requirements: A Qualifying Accepted Offer is any of (1) a written record from the graduate; (2) a written offer letter or contract, either signed or with oral confirmation that the offer was accepted; or (3) confirmation from an employer, third-party recruiter, or legal, credentialed third-party employment history service together with the name and job title of the point of contact. Any such document must also meet these criteria:

- States either the offer date or start date. (If both are available, use the earlier to compute placement data.)
- States that the offer is paid. (For the avoidance of doubt: exact payment rate is not required to establish a Qualifying Accepted Offer. Unpaid offers do not qualify as offers, and should be reported under a different outcome code.)
- Indicates that the offer was accepted
- Any information sourced verbally must meet the requirements listed in Section 3.3.

(For the avoidance of doubt: a school may source information from LinkedIn or other informal sources, but it must get confirmation by a student or employer -- per 1, 2, or 3 above -- or assign an alternate outcome code. CIRR has specifically decided not to allow LinkedIn as a sole source of documentation.)

Specific requirements: Qualifying Accepted Offers differ in three ways: in-field vs. not-in-field, full-time vs. part-time, long/medium/short-term, and from the school vs. from another company. An offer is assumed to be not-in-field, part-time, and short-term unless the below criteria are met. Use any appropriate documentation criteria for distinguishing between offers from the school or from another company.

- In-field: Either of the below.
    - Graduate attests that "the job requires the skills for which the student was trained at the school".
    - The document states a job title that would fall under an in-field classification used by Bureau of Labor Statistics SOC codes. School must have published those SOC codes in its catalogue in advance of the student's enrollment, unless this report covers a period before school's first CIRR report was published.
- Full-time: The document indicates that the job is full-time, or 32+ hours per week.
- Term: For "long-term", the document indicates that the offer or contract is permanent, at-will, or greater than six months in duration. For "medium-term", the document states that the offer or contract is at least three months in duration. (For the avoidance of doubt: a contract-to-hire arrangement, wherein a contract states a three-month employment, and a potential full-time offer thereafter, would count as "medium-term", until/unless a permanent offer was eventually documented.)

The below table specifies the specific requirements for each documentation code.

Outcome Code	Outcome	Specific Requirements			
		In-field?	Full-time?	Term	From School
1A	Full-time employee	Yes	Yes	Long-term	No

1B	Full-time apprenticeship, internship, or contract position	Yes	Yes	Medium-term	No
1C	Hired full-time by school in-field	Yes	Yes	Long-term	Yes
2B	Short-term contract or part-time position	Yes	Not req'd	Any term	No
2C	Hired by school out of field or temporary	Not req'd	Not req'd	Any term	Yes
2D	Out of field	Not req'd	Yes	Long-term	No

Finalizing steps 3.1-3.2

By now, the spreadsheet should contain an outcome code for each graduate, and an Effective Outcome Date when required. Each outcome code should be verified with the associated documentation requirements, which should be stored per the protocol below. The spreadsheet should compute all outcome rates, at 90 and 180 days after the date of graduation.

Documentation Management Protocol: All Required Documentation used for this report shall be stored electronically in a manner that allows them to be inspected within two (2) business days of request by an authorized party. The recommended practice is to put all documents in one electronic folder (using screenshots to incorporate documents hosted on third-party servers, such as email) and link to those documents from the spreadsheet. The records shall be kept for a period of five (5) years after the student's date of enrollment, or as required by state law, whichever period is longer.

Unless otherwise specified, documentation as required under these standards may be obtained in-person, on the telephone, in writing, or through other electronic means. For information obtained in writing or through other electronic means, the records must contain a digital record of the information.

For information obtained verbally, the records must contain a written statement indicating:

1. The date of the conversation,

2. The school representative or agent who conducted the conversation,

3. The person who provided the information, and if that person is not the student, the person's relation to the student, and

4. The content of the conversation as relates to the data being collected.

3.3 Compute Salary Data

Update the spreadsheet with the compensation information for each graduate with an outcome code of 1A-1C or 2B-2D, using the below table. All salary information must follow these guidelines:

- Salary includes only base compensation. It excludes bonuses, equity, relocation, and any other non-base compensation.
- If a student has held multiple positions during the period between the certificate of completion and the point of inquiry, the school shall use the salary of the position used to determine the student's inclusion in the "Employed in Paid, In-Field Position" Job Attainment Rate for purposes of reporting on salary outcomes.
- If salary information is known, it must be included. If it is not known, select "Not provided".

Role is:	Rate is:	Select:	Input:
Full-time	Annual salary	"Annual salary"	Annual rate
	Hourly	"Full-time hourly wage"	Hourly wage
Full-time or Part-time	Monthly	"Annual salary"	Monthly rate multiplied by 12
	Project-based	"Full-time hourly wage"	Total contract value, divided by project length*

Part-time	Hourly	"Weekly compensation"	Hourly wage multiplied by hours-per-week
	Weekly	"Weekly compensation"	Weekly rate

* For purposes of determining the hourly rate, it shall be assumed that 1 day of work equals 8 hours, 1 week of work equals 40 hours, and 1 month of work equals 160 hours. Hourly rates must be rounded to the nearest cent, counting one-half cent and over as the next higher cent.

When this process is complete, the spreadsheet should compute the salary data and distribution, and the portion of graduates that reported salary data.

4. Additional Student Information

4.1 Job Titles of Graduates

To determine the most frequent job titles of graduates:

1. Update the spreadsheet to list the title of the job used in determining a student's Outcome Codes, if the outcome is employment.
2. Sort the spreadsheet by job title to determine the 10 most frequent job titles.
3. Calculate the total frequency of a job title as a percentage of all job titles.
4. List the ten most frequent job titles and the percentage each makes of all job titles on the summary page in the appropriate section.

4.2 Prior Degrees

To determine prior computer science degrees held:

1. Update the spreadsheet to mark Yes if a student held any computer science degree upon enrolling or No if not..

   a. Schools must collect this information at time of enrollment / on student applications and retain documentation.
   b. This may be self-reported information provided by the student and need not be independently verified by the school or any third-party verifying a CIRR report.
   c. If this report covers a period before school's first CIRR report was published and it did not collect prior degree information, it may exclude this section from the report.
2. The total percentage of students marked Yes among all graduates in the spreadsheet will automatically be recorded on the summary page

5. Review

It is recommended that a second staff member (that did not produce the report) confirm all of the following:

- Redo step 2 from this document. The student lists should be identical.
- There are no blank fields in the cover sheet, and all fields in the template (from this document) are included on the cover sheet.
- There are no red cells in the Student List sheet.
- There are no blank "document link" entries in the spreadsheet.
- No red flags from a deep-dive on 25% of graduates, selected randomly, and covering the following checks:
    - The reviewer (or the original author of the report) can access all of the linked documents.
    - No pattern of miscategorization, or documentation that does not meet (in part or in full) the requirements specified in this document.
    - For graduates with no salary data in the report, there is no salary data in the associated documentation.