Faculty Development Plan
Name
Department of Linguistics
Hire date: 15 August 2017

I find myself at a cross-roads of sorts in my career as an academic. After ten years as a Spanish professor at three different institutions (one year as Visiting Instructor at Auburn University, four years as Assistant Professor at Cal State Monterey Bay, and five years as Assistant and then Associate Professor at Kansas State University), I happily find myself having completed one AY at BYU, contributing to the course offerings dealing with technical and computational tools and methods in support of the study of language. In addition to the obvious shift in what I am now teaching, I foresee this (slight) career shift also affecting my research agenda.

Teaching

In 2009, I started learning the R programming language in an effort to support my research agenda. I was thrilled to see how much time could be saved by automating repetitive tasks with a few lines of R code. This enjoyment grew as I continued learning and refining my ability to write R code by attending two in-person 30-hour workshops with Stefan Th. Gries of the University of California, Santa Barbara, and by taking five massive open online courses on the R language. Further, I attended two conferences on R and have bought and read eight books about R, mostly on using R for linguistic analysis. These experiences helped prepare me to be a strong candidate for the job that I now hold.

Now here at BYU, I found myself again enjoying the experience of learning a programming language, this time the Python language. During the summer before arriving, I took a 6-week massive open online course on Python's data structures and bought and worked through the main textbook for LING 360 "Programming for text processing and analysis", one of the courses I would teach. I also attended the Center for Teaching and Learning's workshop on effective teaching, in which I had the chance to focus on my syllabus for the course. My first semester teaching this course was joy, despite the fact that the learning curve was steep. I relied heavily on the materials created and graciously afforded to me by the previous instructor, Jesse Egbert. Despite being a bit nervous because I was teaching a course that I had never taught, I am happy with the way things went during my first semester (F17). Some students in their evaluations mentioned that the class went too quickly, while others said that the first part went too slowly. The second semester (W18) I taught this course went well, and probably even better than the first time, expectedly. I team-taught it with Don Chapman, but in the end, I did the vast majority of the teaching while Don helped me to help students during the time students had during class to individually work on practice exercises.

The other course I taught last semester, LING 240, went reasonably well. I again relied heavily on the materials of the previous instructor, Jeff Parker. The topics in that course were not new to me, but I had never taught them in a semester-long format. In the end, I again was pleased with the outcome of that course. Other than adding a component dealing with the analysis of sounds with the Praat software for my second semester teaching it (W18), I followed the same pathway. Students seemed to be happy with the course, as expressed in the teaching evaluations. Starting during my third time teaching it in F18, I plan to update some of the datasets that I have student use for homework assignments. Also, I need to create some detailed instructions on how to analyze sounds with the acoustics software Praat. One student in particular was frustrated with the new homework I introduced during my second time teaching the course. While I guided the class through the software in class, having some instructions that they can refer to after class would be good.
Concerning the future, I look forward to teaching LING 440 "Linguistic Tools 2" in F18. Because of this new assignment, I sat in on this course in W18. From what the current instructor, Deryle Lonsdale, has mentioned about how he teaches the course, I will learn more about the Python programming language, especially the Natural Language Toolkit, in preparation for this course. As it will be my first time teaching it, I plan to follow Deryle's syllabus.

Another new course in the future that I will teach in W19 is a course on corpus creation that Mark Davies and I will team-teach. Once again, I am thrilled by the opportunity to teach technical tools and software in support of linguistic analysis.

At the graduate level, I enjoyed teaching LING 604 "Research Design" in W18. While the content was not new to me, I had never taught a graduate level course on research design and statistics. I decided to follow the previous instructor's syllabus and used many of his materials. Addition, for the statistics portion of the semester, I created my own materials and decided to only have the students use the programming language R, the industry standard for statistical analysis. As it was my first time teaching this course, and my first time teaching a graduate level course here at BYU, I was nervous about the outcome. However, in the end, I am satisfied with the ways things turned out, and with the feedback from the students on the course evaluations.

Specific goals concerning teaching include:

- Prepare well to teach LING 440 in F18 by working through all of the homework assignments and familiarizing myself with the Natural Language Toolkit, a Python library specifically designed to analyze language, and the Stanford CoreNLP software, a piece of software that performs many tasks related to analyzing language.

- During F18, prepare lesson plans for my portion of the course on corpus creation, to be team-taught with Mark Davies in W19.

- During summer 2018, review the feedback I have received from students through the course evaluations of the two semesters I taught so far, the SCOT reports from both semesters, and the mid-semester evaluations from both semesters, specifically with an eye to updating and improving LING 240, a class that I will teach two sections of in F18.

**Scholarship**

My research agenda has been centered on the quantification of language variation in Spanish since at least my Master's thesis here at BYU. A recent paper, co-authored with Matthew Alba at BYU-Idaho, measured the influence of contextual frequency, that is, the frequency with which words occur in phonological contexts that favor the articulatory reduction of word-boundary sounds, on the phonetic realization of word-initial /f/ in a sample of Mexican Spanish. A recent paper written by other scholars proposes that this frequency measure was important in the outcome in modern Spanish of word-initial Latin /f/ as either /f/ or /φ/. Our paper addresses whether this same factor is significant synchronically in modern Spanish. This paper appeared in the March 2017 issue of the peer-reviewed journal *Language Variation and Change*.

Additional research activity this past year include two manuscripts that have been accepted for publication in two different edited volumes dealing with Spanish in the US and Spanish as a heritage language in this country. Both of these papers were co-authored with Laura Valentín-Rivera, a former colleague at Kansas State University. I presented one of these papers as an oral presentation at the biennial conference Spanish in the US, held in April 2017 here at BYU.
While I foresee continuing to research language variation in Spanish in the future, with this change of institutions and departments, I foresee my research agenda expanding to include variation in English, and likely other languages too. As a Spanish professor for the ten years before coming to BYU, I felt the expectation that I would only research topics directly related to Spanish. Now that I am working in a linguistics department, I sense a new freedom that allows me to research topics in any language that interest me. This new-found freedom has already manifested itself with a new collaboration with my departmental colleague, Dave Eddington. Another colleague in my department has recently mentioned the idea of collaborating on a paper as well. Both of these research projects deal with linguistic variation in American English. I look forward to being able to test in languages other than Spanish some of the independent variables that have been important to my research agenda in the past, especially those dealing with usage-based factors dealing with frequency in naturally-occurring language.

In addition to expanding from Spanish to other languages, I foresee my research relying more heavily than it already does on computational methods. During my first semester here at BYU, I sat in on my colleague’s, Deryle Lonsdale, Natural Language Processing course, and then during my second semester I sat in on his LING 440 and another colleague’s, Mark Davies, corpus linguistics course. I was again fascinated by what can be accomplished with the support of computers.

Specific goals for scholarship include:

- Submitting a manuscript to a reputable journal with Bret Linford and Alicia Harley on our paper about the L2 acquisition of code /s/ in Spanish during study abroad, a paper that we presented orally at the Hispanic Linguistics Symposium in October 2017 and as a poster presentation at the Linguistic Society of America in January 2018.

- Submitting a manuscript to a reputable journal with Bret Linford on the L2 voicing of coda /s/ before and after study abroad. Bret presented this paper at the conference Current Approaches to Spanish and Portuguese Second Language Phonology, held in February 2018 at Indiana University.

- Continue working on a textbook with my brother Alan Name and his colleague Yanira Paz, both of the University of Kentucky, for a corpus-based lexico-grammar of Spanish, based on data from the Corpus del Español, created by my colleague Mark Davies.

- Submit a manuscript to a reputable journal with my former colleague Mary Copple of Kansas State University on our paper about the L2 realization of voice onset time with voiceless stops in Spanish.

- Resubmit a manuscript to the Journal of Phonetics with Mike Gradoville of Arizona State University and Rich File-Muriel of the University of New Mexico on our paper that correlates the physiology of the individual's vocal tract with /s/ realization in Colombian Spanish.

- Help prepare a manuscript for submission to a peer-reviewed journal with my colleague Dave Eddington, on the articulation of /t/ in four states from data we have collected and analyzed through Mechanical Turk.

**Citizenship**

Since arriving at BYU, I have served as the Guest Speaker Coordinator for my department. Because a clear description of this citizenship role does not seem to exist, I have tried to offer help in any way I can to faculty members who invite visiting scholars. My first experience with this role occurred mid-semester F17 with a visiting scholar from Covenant College in Georgia. With the departmental
administrative assistant, I coordinated her visit and participated in most of the events during her stay. Shortly after that scholar's visit, I coordinated a dinner for graduate students with another visiting guest, this time the CEO of a company that specializes in speech recognition software. During my second semester (W18) I helped coordinate the visit of two publishers from New York, one of which I picked up from the airport with my wife and took to dinner. Additionally, I was heavily involved in the visit of the corpus linguist, Tony McEnery, from Great Britain. This latter visit was particularly exciting for me, as I am interested in corpus linguistics and had only known Tony McEnery by name before his visit.

In addition to that specific citizenship role that my department chair asked me to fulfill, I also serve on the Master's in Linguistics program assessment committee. Finally, I also read and offered feedback on applications to our graduate program in linguistics during W18.

Specific goals concerning being a good citizen:

- Offer support in any way possible for guest scholar visits during AY 2018-19.
- Help coordinate an event to promote the editing arm of our department, as assigned by my chair.
- Continue to serve on and contribute to the assessment committee for the MA Linguistics program.
- Continue to contribute to the vetting of MA Linguistics applicants by reading applications and giving feedback.
- One long-term collaborative goal that I have it to be involved with a scholarly writing group with colleagues in my department. This goal overlaps the two areas of scholarship and citizenship. I feel that being a good citizen must involve establishing and maintaining connections with colleagues.
Goals for 2\textsuperscript{nd} (3\textsuperscript{rd}) time teaching selected course
Name
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I taught my selected course (LING 360) for the first time in F17, and then again for a second time in W18, before the Faculty Development Series' Spring Seminar in May 2018. As such, instead of goals for the second time I teach the course, my goals will be for when I teach it for a third time, in W19.

Goals:
1. Find time in the schedule where I can fit in a short lesson about using the Julia programming and the R programming language to perform some of the tasks that we will have already seen by that time in the semester. The purpose of this short lesson is to help students to continue developing the ability to read other people's code, even in a different language, in order to understand the logic of the code.
2. Talk with my former co-instructor to explore the feasibility of removing one of the lessons currently in my schedule in order to make room for a lesson about topic modeling with the Latent Dirichlet Allocation (LDA) algorithm.
Citizenship Project proposal
Name
Department of Linguistics
Hire date: 15 August 2017

In addition to the obvious responsibility I have of contributing to the fulfillment of administrative responsibilities, something referred to as "service" at my previous institutions, I feel that establishing and maintaining good relationships with my colleagues at the department and college levels, and beyond, is also an important aspect of being a good citizen. Hence, my citizenship project will focus on these extra-service components of being a good citizen, as the service components assigned by the department chair are a given.

I have thoroughly enjoyed getting to know colleagues in my department who have research interests and teaching expertise in areas that I had not had contact with before arriving to BYU, especially in the field of computational linguistics. Like when I first started learning about computer programming in support of the study of language, I have been fascinated by what I have been learning about topics in machine learning and natural language processing, both in support of linguistic analysis. One goal I have is to expand my research agenda to include more of the techniques in natural language processing and machine learning in support of the quantification of language variation in Spanish and in English. I plan to discuss on a regular basis my research interests with colleagues, especially those with a quantitative and/or computational expertise.

Relatedly, I feel that joining a writing and (informal) peer-review group created by other new colleagues in my department will also help me establish and strengthen collaborative relationships with others. Like I mentioned in my faculty development plan and my scholarship project proposal, I feel that joining this group will be beneficial for my scholarly productivity, and that is the main purpose of the group. However, an additional benefit from joining the group will be to create and strengthen collaborative relationships with others, something that will foster success in all members of the group.

Regarding my teaching, I think that receiving feedback from colleagues would also increase my connections in the department. During my first semester at BYU (F17), my colleague Dan Dewey observed me teach my LING 360 once. He had wanted to observe me several times, but for various reasons was able to observe me once. I plan to ask him to observe me several times, if he is able to, during F18. Likewise, my mentor, Dave Eddington, mentioned to me that he would be willing to observe my teaching multiple times. Both of these connections with colleagues will likely be improved by these activities.

A final goal that I feel will strengthen my connections is to have lunch with colleagues regularly. While I have already done this on several occasions, I feel that a concerted effort to do this will result in more and stronger connections with my colleagues.

In summary, my goals for this citizenship project are:

• Regularly discuss my research interests and activities with colleagues.
• Join and actively participate in an informal peer-review writing group created by other new faculty members in my department.
• Ask two colleagues to observe me teach, several times if possible, during F18.
• Initiate having lunch with colleagues on a regular basis.
During August 2017, I participated in the two-day workshop given by the Center for Teaching and Learning (CTL) on effective course design. The course I decided to focus on was the one with the newest content for me, content that I had never taught in a class: LING 360: Text Processing and Analysis. The most daunting task was to get myself familiar with the computer language to be used: Python. While I had ample experience with another programming language (the R programming language), I had little experience with Python. I appreciated the instruction that CTL gave during the workshop. It helped me think of the big picture of a course first, before getting down to the nitty-gritty. I found top-down approach practical and helpful.

I taught LING 360 for the first time during my first semester here (F17). It went reasonably well. I relied heavily on materials graciously afforded to me by the previous instructor, even though that previous instructor had already left BYU for another university. During that first semester, I asked my students for a mid-semester evaluation and had a Student Consultant on Teaching (SCOT) come to observe me in that (and my other) class.

I taught the course again the very next semester (W18). I updated a few of my lesson plans and had to adjust a bit to having a team-teacher with me. One idea that the my team-teacher mentioned was to give students an introduction, if only a brief one, to other programming languages that can be used process and analyze texts. While we did not do that during my second semester, I would like to do so during my third time teaching the course, which will not happen until W19.

To the end of introducing students to a new programming language that can be used to process and analyze texts, I would like to introduce them to the Julia programming language. Julia is a relatively new language created by a group of professors and graduate students at the Massachusetts Institute of Technology, and released to the public as an open-source project in 2012. The benefits of this language are that it is relatively easy to programming in, as easy as Python and R, but it executes commands on the computer as quickly as the industry-standard programming languages of C, C++, and Java. In effect, it has the best of both worlds: easy to programming with very quick execution speed. Because of these two main benefits, it is not surprising that Julia has risen in popularity quickly since its initial release.

I would like to apply for the teaching grant money in order purchase several books on the Julia language as well as some books on the machine learning technologies in support of language analysis. While I have looked at several online tutorials on Julia, I feel that having on hand several books would be useful for increasing my own proficiency in Julia, which in turn would enable me to help my students learning this exciting new language. Additionally, as mentioned, I would like to purchase some books on machine learning algorithms that deal with the analysis of language. One such algorithm, the Latent Dirichlet Allocation (LDA) algorithm, automates the extraction of cohesive topics in large amount of documents. I have considered replacing one topic in my current curricular design of LING 360 in order to make room for topic modeling.

To summarize, I propose to use the grant money to purchase several books on the Julia language as well as several books on machine learning techniques in support of linguistic analysis, for likely inclusion in my LING 360 course.
Theme: The quantification of language variation

My research agenda has been centered on the quantification of language variation in Spanish since at least my Master's thesis here at BYU in 2003. While I foresee continuing to quantify language variation in Spanish in the future, now that I am professor and researcher in BYU’s linguistics department, my research agenda will likely expand to include variation in English, and perhaps other languages too. However, the theme of the quantification of language variation will continue to be central to my research agenda in the foreseeable future. This new-found ability to research variation in languages other than Spanish has already manifested itself with a collaboration with my departmental colleague, Dave Eddington, on a topic of interest to both of us. Further, another colleague in my department has expressed interest in collaborating on a paper with me. Both of these research projects deal with linguistic variation in American English. I look forward to being able to test in languages other than Spanish some of the linguistic variables that have been important to my research agenda up to this point in my career, especially those dealing with usage-based factors dealing with frequency in naturally-occurring language.

Goals:

By February 2019, I will:

• Help revise two co-authored manuscripts on two different studies on the linguistic production of heritage speakers of Spanish in the United States. These studies were co-authored with a former colleague at Kansas State Univ. and have been accepted for publication in two different edited volumes.

• Help prepare and submit a manuscript with my co-authors at the Univ. of Colorado, Boulder and the Univ. of New Mexico on our study that is currently in the data analysis stage, for consideration as a peer-reviewed article in a reputable journal in linguistics, likely one of Language Variation and Change, Language, or the Journal of Research Design and Statistics in Linguistics and Communication Science. The study investigates the influence of frequency with which words occur in fast speech on the phonetic articulation of word- and syllable-initial /s/ in the Spanish of Cali, Colombia.

• Help prepare and submit a manuscript with my co-author at Kansas State Univ. on our study that is currently in the data analysis stage, for consideration as a peer-reviewed article in a reputable journal in (Spanish) language acquisition, likely one of Hispania or Language Acquisition. The study analyzes the phonetic articulation of word-initial /p/, /t/, /k/ in the L2 Spanish of third- and fifth-semester university students at Kansas State Univ.

• Help prepare and submit a manuscript with my co-authors at Grand Valley State Univ. (in Michigan) on our study of the L2 acquisition of syllable-final /s/ by study abroad students in the Dominican Republic and in Spain, for consideration as a peer-reviewed article in a reputable journal in language acquisition, like those mentioned for the previous manuscript.
Start a new single-author study on a topic yet to be determined. My last single-author study was published in February 2018 in an edited volume and I do not yet (as of June 2018) have a new one in progress. While co-authored papers are acceptable in my department (and my field), I feel the need to have a single-author paper in the works at all times, perhaps if for no other reason, to appease any university-level reviewers of my CFS portfolio who may view poorly an absence of single-author publications.

Strategies:

While many of the strategies in the Inventory of Strategies for Increasing Scholarly Productivity, provided by the Faculty Center during the Spring Seminar, caught my attention, I will specifically focus on several dealing with the writing process:

• Set aside daily blocks of time on workdays to work on a manuscript, that is, to write in a manuscript. While I feel highly capable and skilled at the data collection and data analysis stages of a study, I feel less confident with my writing output. I think one thing that will help me implement this strategy is to do this writing in the morning, perhaps early in the morning. My goal is to write at least 15 minutes each workday, with the hope of reaching 30 minutes.

• Similarly, I plan to implement the "writing office hours" strategy. By writing early in the morning, when possible, I think potential distractions will not be a problem. However, when my writing has to happen later in the day, I will post a tactful sign on my door alerting my colleagues and students that I am in a highly productive moment with my writing, but will be available later or by email.

• Relatedly, I will implement the strategy to begin writing as soon as I start a new project, and not wait until the data analysis is finished. I think it makes sense to write all along the way, as oftentimes ideas and clarity come while writing.

• Finally, I plan to implement the strategy of setting aside regular time to read the literature in my field and in the fields I would like to venture into, specifically in my case, computational linguistics and natural language processing. My goal is to read at least 10 minutes each workday in the literature, whether abstracts in order to find papers that interest me or the papers themselves. This is a modest goal, but I need to start somewhere.

Evaluation of success of strategies:

The main method I have recently started to use in order to evaluate my success with increasing my writing output is to track the time I spend per day on writing in a manuscript, not just working on research generally, but rather, specifically on writing. Several other new professors in my department have formed a writing peer group in order to encourage each other to write. We track the amount of time we write per workday in a wiki spreadsheet (a google sheet). This might be considered an example of positive peer pressure. The sense of accountability to my other new faculty peers motivates me to write at least 15 minutes per day.

Similarly, I will track the number of minutes per workday that I read in the literature. I foresee using the same wiki spreadsheet as I use for tracking my writing. These two tracking mechanisms will help me move forward with my scholarly productivity.
Course purpose
As a result of taking the course, students will be capable of searching within and analyzing large amounts of written language from a variety of genres and in different formats with the computer language Python.

Course description
This course is for students who wish to learn how computers can be used to analyze written language. During the course, students will investigate language use and variation using programs they have developed. This course requires no prior experience with computer programming. I believe that anyone can learn to program. I'll use a hands-on approach to introduce programming logic and skills in a natural and logical way. During the semester we will use Python to investigate linguistic patterns in words, sentences, texts, and untagged and tagged corpora. This will be an interesting introduction to programming logic, basic programming skills, and text processing for linguistic analysis.

Course learning outcomes
• Students will be able to solve practical problems in text processing.
• Students will be able to apply basic programming skills using data structures, regular expressions, and control statements.
• Students will be able to use Python to process and manipulate texts and extract linguistic data.

Materials and resources
• Materials made available on Learning Suite (LS)
• pythex.org

Attendance
Class attendance is critical to your success in this class. I expect you to attend class and be an active participant. If you know in advance that you have to miss class, please inform me so we can make arrangements regarding your missed work. If unexpected challenges arise that cause you to miss class, please communicate with me through email as soon as possible.

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1 Many thanks are expressed to Dr. Jesse Egbert at Northern Arizona University for his generosity with materials for this course.
Late Work
If you must miss a class, it is your responsibility to find out what you missed and to come to the next class prepared to participate. I will not usually accept late work unless you make prior arrangements for an alternate due date.

In-class Policies
Please respect me and your classmates. This course relies on discussion and involvement. Please be willing to participate during class. You are responsible for checking your email daily for updates and announcements.

Assignments
The components of the final grade are the following:

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<tr>
<th>%</th>
<th>Description</th>
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<tbody>
<tr>
<td>10%</td>
<td>Core concepts quiz during Week 4</td>
</tr>
<tr>
<td>10%</td>
<td>Class participation</td>
</tr>
<tr>
<td>60%</td>
<td>Twelve (nearly) weekly assignments</td>
</tr>
<tr>
<td>20%</td>
<td>Final Project and presentation</td>
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Grading
The scale for the final grades is the following. *NOTE: No rounding is applied, for example, an 89.99 is a B+ while 90.00 is an A-.*

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>93-100</td>
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<tr>
<td>B</td>
<td>83-86</td>
</tr>
<tr>
<td>C</td>
<td>73-76</td>
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<tr>
<td>D</td>
<td>63-66</td>
</tr>
<tr>
<td>A-</td>
<td>90-92</td>
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<tr>
<td>B-</td>
<td>80-82</td>
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<td>C-</td>
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<tr>
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<td>60-62</td>
</tr>
<tr>
<td>B+</td>
<td>87-89</td>
</tr>
<tr>
<td>C+</td>
<td>77-79</td>
</tr>
<tr>
<td>D+</td>
<td>67-69</td>
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<tr>
<td>F</td>
<td>0-59</td>
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Schedule
*NOTE: This schedule should be considered tentative, as it may be changed as needed.*

<table>
<thead>
<tr>
<th>Week</th>
<th>Topics</th>
<th>Homework</th>
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</thead>
</table>
| Week 1        | Course overview and syllabus; text processing; programming logic; Python syntax | Thurs, by class:  
• read Downey, ch. 1                                                      |
| Sep. 4 - 8    |                                                                        |                                                                         |
| Week 2        | Data structures; variables and statements; basic regular expressions; string handling | Tues, by class:  
• read Downey, ch. 2  
Thurs, by class:  
• read Downey, ch. 8  
Fri, by 6 pm:  
• turn into LS Assignment 1                                      |
| Sep. 11 - 15  |                                                                        |                                                                         |
| Week 3        | Lists                                                                  | Tues, by class:  
• read Downey, ch. 10  
Fri, by 6 pm:  
• turn into LS Assignment 2                                      |
<p>| Sep. 18 - 22  |                                                                        |                                                                         |</p>
<table>
<thead>
<tr>
<th>Week</th>
<th>Topics</th>
<th>Homework</th>
</tr>
</thead>
</table>
| Week 4 Sep. 25 - 29 | Processing sentences  
Thurs, Sep 28, in class: Core Concepts Quiz | Thurs, by class:  
• review for quiz |
| Week 5 Oct. 2 - 6 | Accuracy analysis; file handling | Tues, by class:  
• read accuracy pdf file  
Thurs, by class:  
• read Downey, ch. 14  
Fri, by 6 pm:  
• turn into LS Assignment 3 |
| Week 6 Oct. 9 - 13 | Processing texts; processing corpora | |
| Week 7 Oct. 16 - 20 | Processing corpora cont.; counts and normalizing | Fri, by 6 pm:  
• turn into LS Assignment 4/5 |
| Week 8 Oct. 23 -27 | Dictionaries; word frequency lists | Tues, by class:  
• read Downey, ch. 11  
Fri, by 6 pm:  
• turn into LS Assignment 6 |
| Week 9 Oct. 30 - Nov 3 | Basic descriptive statistics; tagging | Fri, by 6 pm:  
• turn into LS Assignment 7 |
| Week 10 Nov. 6 – 10 | Processing tagged texts; sentiment analysis | Fri, by 6 pm:  
• turn into LS Assignment 8 |
| Week 11 13 - 17 | Twitter; Web as corpus | Fri, by 6 pm:  
• turn into LS Assignment 9 |
| Week 12 Nov. 20 - 24 | Tues, Nov. 21st: no class – Friday instruction  
Thurs, Nov. 23rd: no class - Thanksgiving | |
| Week 13 Nov. 27 - Dec. 1 | Graphical user interfaces (GUI) | Tues, by class:  
• read Downey, 1st ed., Ch. 19 here:  
| Week 14 Dec. 4 - 8 | GUIs cont. | Fri, by 6 pm:  
• turn into LS Assignment 10/11 |
| Week 15 Dec. 11 - 15 | Final projects | Thurs, by 6 pm:  
• turn into LS Assignment 12 |
| Finals period Dec. 16 - 21 | Sat., Dec. 16th, 11 am – 2 pm: Final project presentations | Sat, by 6 pm:  
• turn into LS Final project |