



American Chemical Society

Preparing a Resume

Learner Application Guide

Version 2.0

Preparing a Resume: Introduction

“Writing the resume is only slightly above filling out income tax forms in the hierarchy of worldly delights. If you realize that a great resume can be your ticket to getting exactly the job you want, you may be able to muster some genuine enthusiasm for creating a real masterpiece, rather than the feeble products most people turn out.”

--Rockport Institute

The first major hurdle in the job search process is targeting the kind of job you want—finding the intersection between the jobs available, your talents and background, and your personal values. Once you’ve jumped that, you’re ready for the second hurdle: crafting a resume that will earn you an interview for that kind of job.

What’s This Learning Component For?

You’ve already viewed the short video segment that provides you an overview of this part of your job search process. The purpose of this Learner Application Guide (LAG) is to provide you with additional information about some of the principles introduced in the video in more detail, and to provide you with a framework for applying those principles to your own job search.

What Will I Learn?

There is one and only one purpose of a resume: to get an interview for the job you want. A resume is an ad, and as such there is no magic formula or one-and-only-one format. There are, however, some rules of thumb that you can use as a guide in the development process. These guidelines fall under two main headings:

- **The Structure of an Effective Resume.** This set of guidelines includes suggestions about the kinds of content you should include (and not include) in your resume, and about the ways you should think about organizing that content.
- **The Format of an Effective Resume.** This set of guidelines includes suggestions about the length, layout, and general “eye-appeal” of the resume.

In the final section of this Guide, you will have an opportunity to either begin to craft a new resume or to examine and improve the resume you already have.

Part 1: The Structure of an Effective Resume

The key to creating a high-impact resume is to look at the document from the employer's point of view. From this point of view, the purpose of the resume review is to *screen out* applicants who don't fit the job requirements. Your objective is not to include anything that will get your resume stacked on the "rejects" pile.

Two numbers to keep in the forefront of your mind: the average time screeners devote to each resume is about 20 to 30 seconds, and they make up their minds within the first 7 seconds.

A resume typically has three main sections: Introduction, Background, and Supporting Information (you can find a complete example of a well structured resume at in the Appendix). Let's look at each of these three in more detail.

The Introduction

The Introduction is like the headline of your personal ad. Usually, the Introduction has its own three sections: Heading, Job Objective, and Highlights.

Heading

The Heading is as brief as it is important, in that it lays out your contact information. The Heading typically includes the following:

- Name
- Address
- Email contact information
- Phone number
- Web page (optional)

Job Objective

There is a case to be made for and against including an explicitly stated Job Objective as a section in the Introduction. An explicit Job Objective can demonstrate better alignment with some jobs, clarify your interests, and alert the reader to your key qualifications. On the other hand, an explicit Job Objective can narrow your options if it's not completely aligned with the job in question, and can send the wrong message to the reader, especially if the Job Objective is vague or unclear.

A well-written Job Objective describes the kind of job you want in terms of:

- The industry you want to work in
- The chemical discipline you want to specialize in
- The role you would like to play.

An example of a well-written Job Objective might sound something like this: “A position as an organic chemist taking advantage of my knowledge of medicinal chemistry and organic synthesis.”

Highlights

You can think about the Highlights as the executive summary of your report. You will also see the Highlights section referred to as Accomplishments or Key Qualifications. This section of the resume guides the reader’s attention as he or she reviews the resume, brings some of your skills or experiences to the forefront, and offers you the chance to present the “entire package.”

Here are some well-written examples of a Highlights section:

- “Experienced in the synthesis, purification and characterization of organic compounds.”
- “Skilled in identifying and preparing novel materials for use in fuel cells.”
- “Adept at preparing fuel cells having high efficiency and extended shelf-life.”
- “Originated techniques for detecting energy loss sites in photo-electric membranes.”

The Background

The Background section is the “body” of the resume—it’s the longest section. The most important information in the Background section is your education and your previous research and work experience. You always lead with your strongest material, so work experience should come first if you’ve been in the work force for a time. Otherwise, lead with education.

Education

- List degrees in reverse chronological order
- Format: degree, field, university, location, year
- For graduate degrees, list thesis title and name of advisor

Work experience

- List positions in reverse chronological order
- Separate post-doc and thesis research
- Format: Dates, position title, organization, key accomplishments
- State accomplishments concisely: Begin with a verb, then describe impact or results.

Other relevant skills

Toward the end of the Background section, you can mention any other skills you have that are relevant to the Job Objective you've described. For chemistry professionals, those skills might include things like special techniques, instrumentation, unusual computer programs, or languages.

The Supporting Information

The third and final section of the resume presents your Supporting Information. This information is not be in the body of the resume because it would interrupt the reader's "flow" through your resume.

Publications

List publications using accepted citation protocol. State number of publications in peer-reviewed journals, U.S. patents granted, and presentations.

Awards

Include name of award, date, granting organization, effort acknowledged.

Presentations

List the presentations you have made to professional associations and other meetings, with the title of the presentation, the organization, and the date. Again, use reverse chronological order.

Professional affiliations

Mention volunteer positions in professional organizations (like ACS), and "non-scientific" activities that demonstrate leadership and skills relevant to your job search.

References

Many experts recommend against including references on your resume, because some employers contact references before talking with you. If you identify references, contact potential references ahead of time and select only strong advocates, send a copy of your resume to each reference, and provide them regular updates on your job search.

What Not to Include

What not to include in a resume is often as important as what to include. You want to leave out information about age, marital status, number of children, religion or political party affiliation, national origin, past salary history, and hobbies (except one reflecting an exceptional skill) because it's against the law in the United States for employers to discriminate based on these attributes.

Critiquing an Ineffective Structure

Have a look at Exhibit A on the next page. This is an example of a resume with a generally ineffective structure. Try to identify the main areas of weakness and decide what you would do to improve it. Use the spaces below to take notes as you analyze the resume.



What kind of information is missing from this example? What effect would the missing information have on a reader?



Is there any information you would modify or delete from this example? Why?

Exhibit A: Example of Ineffective Structure

Nikko Doras

Department of Chemistry
University of Oklahoma
24 N. Margarie Street
Riddler, OK 88888
(555) -555-5555

Career Objectives

A management position (as opposed to a research position) with an exciting organization on the cutting edge of research that will enable me to reach new horizons in productivity, learning, and personal growth.

Experience

Associate Scientist, Lockheed Environmental Systems and Technologies Company, Las Vegas, NV
Applied US EPA, DOD, DOE, ASTM, and other methods to quantify pesticides and PCBs using gas chromatography

Education

Post-doctoral fellow, University of Oklahoma, Riddler, OK

Ph.D., Medicinal Chemistry, Random State University, Mobius, CO

B.S., Chemistry, University of Nevada, Las Vegas, NV

Honors

Graduate Student Award for Work in Natural Products Chemistry, OSU
University of Oklahoma Radiological Health Certification
Member of American Chemical Society, Medicinal Chemistry Division Member
Co-chair of 34th Graduate Student Symposium in Medicinal Chemistry, OSU
Chairperson, University of Nevada Young Republicans

Personal Information

Married, two children. Born in Japan, currently a U.S. citizen. Black belt in judo.

Part 2: The Format of an Effective Resume

Because hiring managers typically devote such little time (20 to 30 seconds) to reading each resume, you need to format your resume in a way that directs the reviewer's eye to the most important information and makes it easy for the reviewer to find the information that highlights your strengths.

General Formatting Guidelines

As with structure, there are no hard and fast rules to formatting an effective resume, but when you format the information you've chosen to include, you should keep the following guidelines in mind:

- Try to keep it to 1 page in length (usually no longer than 2)
- Use a standard font (Arial, Tahoma, Times New Roman)—usually one to two fonts. Readability is enhanced by using a sans serif font for headings (e.g. Arial) and a serif font for the text (e.g. Times New Roman).
- 11 to 12 point font size
- Printed on white or off-white paper with black ink
- Use design elements (bullets, bolding) to make the document easy to read
- Maintain a good balance between white space and text. All margins should be 1 to 1.5 inches.
- Be consistent

Again, you can find an example of a well-formatted resume in the Appendix at the end of this Guide.

Formatting for Electronic Submission

More and more often, job seekers are required to submit their resumes via e-mail as opposed to hard copy. These resumes are then usually scanned by optical scanners, which makes formatting even more important. When creating a resume that will be submitted via e-mail:

- Use keywords that are relevant to the position you are applying for, especially technical keywords what are communications keywords?.
- Also, avoid special formatting, such as columns, decorative break lines, underlining and shadowing, and italics. All of these make the process of scanning more difficult, and make your resume less readable.

Critiquing an Ineffective Format

Have a look at Exhibit B on the next page, which is an example of a resume with good information and structure, but a generally ineffective format. Try to identify the main areas of weakness and decide what you would do to improve it. Use the spaces below to take notes as you analyze the resume.



What are the top two or three formatting problems you can find in this example? Why does each detract from the effectiveness of the resume?



How would you change the formatting of the resume to make it more effective and easier to read and scan?

Exhibit B: Example of Ineffective Formatting**Nikko R. Doras, Ph. D.**

Department of Chemistry
University of Oklahoma
24 N. Margarie Street
Riddler, OK 88888
(555) -555-5555
JDoras@chem.ok.edu

9305 Washington Lane
Sandy, OK 88888
(555) 555-5555
(55) 555-5555 (mobile)
Doras_Nikko_r@yahoo.co

Objective

Challenging research position in medicinal chemistry in the pharmaceutical or biotech company

Qualification

Medicinal chemist with strong synthetic organic chemistry background.
Total synthesis using modern techniques in multi-step organic synthesis.
Production of multi-gram to milligram amounts of target.

Characterization of intermediates using a full scope of instrumentation.

Experience with protein isolation, enzyme kinetics, assay design, and pharmacological evaluations.

Education

2003 – present . Post-doctoral fellow, University of Oklahoma, Riddler, OK

- Mentor: Ebenezer Quinn
- Research Focus: Synthesis and evaluation of mechanistic based enzyme inhibitors for 2-C-methylerythritol 4-phosphate synthase and isopentenyl diphosphate isomerase (type II).

2003. Ph.D., Medicinal Chemistry and Pharmacognosy, Random State University, Mobius, CO

- Advisor: Tony Osterwise
 - Thesis: 1. Synthesis of (R)-glycine-d-¹⁵N. 2. Synthesis of carbon-linked analogs of retinoid glycoside conjugates.

1995. B.S., Chemistry, University of Nevada, Las Vegas, NV

- Advisor: Aurther Connor
- Senior project: Colorimetric-based field analysis of benzene in water or soil.

Experience

Post-doctoral research, University of Oklahoma, Lake City, OK. 2003 – present. Designed, synthesized, and evaluated substrate analogs as mechanistic probes for isopentenyl diphosphate isomerase (type II). Synthesized and evaluated inhibitors for 2-C-methylerythritol 4-phosphate synthase using structure-based design.

Graduate research, Ohio State University, Columbus, OH. 1997-2003. Designed novel synthetic routes and performed large-scale syntheses of retinoid-C-glycosides as investigational drugs for the treatment of solid tumors. Synthesized stereospecifically labeled (stable isotopes) compounds for use in protein NMR and mechanistic enzymology.

Associate Scientist, Lockheed Environmental Systems and Technologies Company, Las Vegas, NV. 1994-1997. Applied US EPA, DOD, DOE, ASTM, and other methods to quantify pesticides and PCBs using gas chromatography.

Undergraduate research, University of Nevada, Carson City, NV. 1995. Developed a semi-qualitative colorimetric method for the field analysis of benzene in water or soil extracts using Fenton's reagent and 4-aminoantipyrine.

Honors and Certifications

Graduate Student Award for Work in Natural Products Chemistry, OSU. 2002. University of Oklahoma Radiological Health Certification. 2004.

Affiliations

Member of American Chemical Society, Medicinal Chemistry Division Member	1999-present
Co-chair of 34 th Graduate Student Symposium in Medicinal Chemistry, OSU	2001

Keywords

Synthesis of structurally diverse molecules: carbohydrates, polyenes, mono- and diphosphates, amino acids, isotopically labeled compounds, and asymmetric synthesis; HPLC, LC-MS, polarimetry, circular dichroism, and multinuclear, multidimensional NMR; MOE molecular modeling software

Part 3: Starting (or Refining) My Resume

Now, it's time to apply what you have learned to crafting a resume for your own job search. If you don't have a resume yet, focus on the first section below, "Starting Your Resume." If you already have a resume, then examine it in the light of what you've learned, focusing on the second section below, "Refining Your Resume."

Starting Your Resume

If you don't already have a resume, get a start on one by answering the questions below.



How would I describe my career objective?



What value would I bring to a job?



What is my professional background and experience?

Refining Your Resume

If you do have a resume, examine it in light of what you've learned, answering the two questions below.



What elements of my professional background and experience could I more effectively highlight?



How can I improve the structure and format?

Appendix: Right-Way Example of Resume**Nikko R. Doras, Ph. D.**

Department of Chemistry
University of Oklahoma
24 N. Margarie Street
Riddler, OK 88888
(555) 555-5551
JDoras@chem.ok.edu

9305 Washington Lane
Sandy, OK 88888
(555) 555-5555
(555) 555-5552 (mobile)
Doras_Nikko_r@yahoo.com

Objective

Challenging research position in medicinal chemistry in a pharmaceutical or biotech company

Qualifications

- Medicinal chemist with strong synthetic organic chemistry background
- Total synthesis using modern techniques in multi-step organic synthesis
- Production of multi-gram to milligram amounts of target
- Characterization of intermediates using a full scope of instrumentation
- Experience with protein isolation, enzyme kinetics, assay design, and pharmacological evaluations

Education

- Post-doctoral fellow, University of Oklahoma, Riddler, OK 2003 - present
- Mentor: Ebenezer Quinn
 - Research Focus: Synthesis and evaluation of mechanistic based enzyme inhibitors for 2-C-methylerythritol 4-phosphate synthase and isopentenyl diphosphate isomerase (type II)
- Ph.D., Medicinal Chemistry and Pharmacognosy, Random State University, Mobius, CO 2003
- Advisor: Tony Osterwise
 - Thesis: 1. Synthesis of (R)-glycine-d-¹⁵N. 2. Synthesis of carbon-linked analogs of retinoid glycoside conjugates
- B.S., Chemistry, University of Nevada, Las Vegas, NV 1995
- Advisor: Arther Connor
 - Senior project: Colorimetric-based field analysis of benzene in water or soil

Nikko R. Doras, Ph. D.**page 2****Experience**

- Post-doctoral research, University of Oklahoma, Riddler, OK 2003 - present
- Designed, synthesized, and evaluated substrate analogs as mechanistic probes for isopentenyl diphosphate isomerase (type II)
 - Synthesized and evaluated inhibitors for 2-C-methylerythritol 4-phosphate synthase using structure-based design
- Graduate research, Ohio State University, Columbus, OH 1997 - 2003
- Designed novel synthetic routes and performed large-scale syntheses of retinoid-C-glycosides as investigational drugs for the treatment of solid tumors
 - Synthesized stereospecifically labeled (stable isotopes) compounds for use in protein NMR and mechanistic enzymology
- Associate Scientist, Lockheed Environmental Systems and Technologies Company, Las Vegas, NV 1994 -1997
- Applied US EPA, DOD, DOE, ASTM, and other standards and methods to quantify pesticides and PCBs using gas chromatography
- Undergraduate research, University of Nevada, Las Vegas, NV 1995
- Developed a semi-qualitative colorimetric method for the field analysis of benzene in water or soil extracts using Fenton's reagent and 4-aminoantipyrine

Honors and Certifications

- University of Oklahoma Radiological Health Certification 2004
- Graduate Student Award for Work in Natural Products Chemistry, OSU 2002

Affiliations

- Co-chair of 34th Graduate Student Symposium in Medicinal Chemistry, OSU 2001
- Member of American Chemical Society, Medicinal Chemistry Division 1999 - present

Keywords

Synthesis of structurally diverse molecules: carbohydrates, polyenes, mono- and diphosphates, amino acids, isotopically labeled compounds, and asymmetric synthesis; HPLC, circular dichroism, and multinuclear, multidimensional NMR; MOE molecular modeling software