UR GEOLOGY: Prospectus

UR Research Title:

Name:	Course section ID

10 pts Pass - All elements present, professional and satisfactory
8 pts Small Improvement needed - One element weak
6 pts Improvement needed - Two elements weak
4 pts somewhat unsatisfactory - Three elements weak and/or some omissions
2 pts unsatisfactory - Several elements weak and/or omissions
0 pts Fail - unsatisfactory / missing

OVERALL COMPOSITION & LAYOUT

The appearance is neat and orderly. The paper is typed and graphics and data are electronically prepared and analyzed. Subscripts and superscripts are appropriately used and any equations are explained. The paper contains title and header and the segments Introduction, Background, Prior Results, Work Plan, Time-Line and Reference page.

/10

OVERALL WRITING & GRAMMAR - one point deduction per infraction

Spelling and grammar are correct. Word repetition and use of first person language is avoided. Statements are factually correct. Appropriate and complete language becoming to a college report is used.

5 pts Pass - satisfactory
3 pts Improvement needed - Some elements weak
1 pts Unsatisfactory - very weak and/or much missing
0 pts Missing

INTRODUCTION & BACKGROUND

Introduces the research idea. Includes updated / edited research question and research question explanation. Also gives a very VERY brief but concise summary of your literature. Do NOT copy your literature review.

5 pts Pass - satisfactory
3 pts Improvement needed - Some elements weak
1 pts Unsatisfactory - very weak and/or much missing
0 pts Missing

PRIOR RESULTS

Summarize scope and results of already collected data or measurements. Describe scope of use for any external data, not collected by you.

40 pts Pass - All elements present, professional and satisfactory
35 pts Small Improvement needed - One element weak
30 pts Improvement needed - Some elements weak and/or some omissions
20 pts somewhat unsatisfactory -Multiple elements weak and/or omissions
10 pts unsatisfactory - Several elements weak and/or major omissions
0 pts Fail - unsatisfactory / missing

WORK PLAN - one or multiple point deduction per infraction

MEAT OF THIS ASSIGNMENT: Contains compilation of workflow and anticipated use of procedures, equipment and fieldwork. Give task outlines and procedural details with explanation of choice of tasks, showing why proposed activities are means of answering the research question. Point out unique contributions explicitly new ideas. Add procedural flow chart. Explain lab and field work (in-house, external, group work, collaborations). Include backup plans and state safety standards.

5 pts Pass - satisfactory
3 pts Improvement needed - Some elements weak
1 pts Unsatisfactory - very weak and/or much missing
0 pts Missing

TIMELINE

Show work-flow for tasks already accomplished and future work plans including time for writing and compilation of your final product.

5 pts Pass - satisfactory
3 pts Improvement needed - Some elements weak
1 pts Unsatisfactory - very weak and/or much missing
0 pts Missing

REFERENCE PAGE

Accurately formatted literature citations in alphabetical order, sorted by first author

WRITING A PROSPECTUS

A **Prospectus** is a RESEARCH PROPOSAL and OUTLINE. It is the equivalent of a marketing or business plan in the world of finance. The purpose of a prospectus is for approval and/or funding requests in scientific research. The writing should be factual and convincing without superlatives and exaggerations. In a sense you are "selling your ideas", i.e. convincing the intended audience that your experiments and theories are important, interesting, valid, and useful. A prospectus should therefore revolve around a well composed research question!

Because a Prospectus is usually written BEFORE most of the research work is done, emphasis should be on "selling your idea" by making convincing arguments that
- ▸ Your project addresses an important problem in an appropriate way.
- ▸ You have adequate preparation and a plan to solve the problem in a reasonable amount of time. (In our case, within the time frame of this undergraduate research course)

Prospectus Outline
Use a 12- or 11-point standard font (Times, Arial, Helvetica), double spaced. Use letter size paper with 1 inch margins, single sided. Place header on each page. Use HEADINGS!

☐ TITLE PAGE: Full Title; Your Name; Course ID, Instructor, Date

☐ HEADER on EACH page (excluding Title Page):   Abbreviated Title; Your Name; Course ID, Page number

1.   INTRODUCTION & BACKGROUND: Which should include:
   a.   Your Research Question from the Research Question Assignment (Make sure you edit according to feedback received)
   b.   Your Explanation from the Research Question Assignment (Make sure you edit according to feedback received)
   c.   A very, VERY brief summary of your literature review (See the Literature Review Assignment). Do **NOT** just copy your Literature Review. Show that you have a good grasp of the subject matter.
2.   PRIOR RESULTS: If you have already started to collect data for your research, summarize the scope and results here. This is an important section if you are planning on using part of someone else's data.
3.   **WORK PLAN:** This is the MEAT OF THIS ASSIGNMENT and should comprise the most paragraphs and pages. Here you are essentially compiling your workflow and anticipated use of procedures, equipment and fieldwork. List the tasks that are required to answer your RESEARCH QUESTION, giving procedural details. Provide the logic guiding your choice of tasks, showing why your proposed activities are the best means of answering your RESEARCH QUESTION. Point out anything that will be your unique contribution to the field by explicitly identifying ideas that are new to your work as opposed to ideas that originated with others. A procedural flow chart might be helpful. Explain your lab and field work, if they are done in-house or if partnership or group work will be used. Give alternative paths (i.e. backup plan) should our equipment break or become unavailable. State how you will maintain laboratory safety.
   a.   Specifically address any planned FIELDWORK. Specify exact locations. If you need to insert a map, please look at the Figures and Tables Assignment for instructions on working with figures. Describe any field methodology your are planning on using, how data will be recorded and any transportation logistics to and from the field.
   b.   Specifically address any planned LABWORK. Give enough procedural and equipment details to show that you are familiar with using your stated intentions.
4.   TIMELINE: Show how you will accomplish the completion of your research within the 15 weeks of this course. You may use the course schedule as a guide and outline which tasks your are planning to tackle each week. Check with the Lab Coordinator to see if he can accommodate your certain research tasks at certain times. Do NOT forget to schedule time for writing and compilation of your final product.
5.   REFERENCE PAGE: Accurately formatted literature citations in alphabetical order, sorted by first author.

☐ SUBMIT COMPLETED PAPER THROUGH THE CANVAS COURSE PORTAL IN PDF FORMAT

For ALL assignments in GEL4970 use a citation's database:

ZOTERO citations database	ZOTERO is a citations database that incorporates itself into Word and your Browser.	Free open source software available at https://www.zotero.org/

Note: You may use a different citations database, if desired. But you MUST use a citations database!

NOTE: After downloading and installing ZOTERO, take an hour or two to become familiar with the operation of the software. One of your first tasks will be to set the citation style to the United States Geologics Survey (USGS) format in ZOTERO. The USGS citation system will be required for this course and your final product.

> **Loading the USGS citation format into ZOTERO:** Once Zotero Standalone is installed, click on "Preferences" under the Edit tab. Once there click on "Cite" and go to the "Styles" tab. Click on the "Get additional styles..." below the Styles Manger Box. When the Zotero Styles Repository Window opens, click on the "geology" button within the "Fields" section. A list of geology journals should now appear. Scroll down to the U.S.Geological Survey and click on it. The U.S.G.S style will now be part of your Zotero system and you can set your citations to be formatted accordingly in Zotero.

General Writing Instruction Summary:

- Use professional language, which means AVOID first person expressions such as "I", "we", "our". Use normal prose, active voice and third party language. Do NOT use informal wording, contractions, jargon, slang terms, or superlatives. Exclude similes/metaphors (and humor!)
- Use present tense to report well accepted facts, e.g. 'Pyrite is a sulfide mineral'. Use past tense to describe specific results, e.g. 'When acid was applied, the specimen effervesced'
- Be quantitative wherever relevant (stats, numbers etc.).

Subscript & Superscript	Use appropriate subscript and superscript, especially when it comes to chemical formulas and mathematical units.. Acceptable examples: 2.9 g/cm^3, H$_2$O, PO$_4^{3-}$, a$_g$=9.8m/s^2 Unacceptable examples: 2.9 g/cm3, H2O, PO4 3-, ag=9.8m/s^2

- Use precise concrete language, no ambiguity e.g, 'correlated' ≠ 'related'. Use simple language – no unnecessary "frills" (distractions). Pay attention to sentence structure and grammar

GRADING and NOTATIONS

Language
The following list is an example of common faults in language usage and attribution.

Errors / Mistakes / Faults	Examples with margin *Fault Counts & Codes*	
Spelling:		
incl. capitalization errors & spacing	| |	The mineral <u>florite</u> has a <u>mohs</u> hardness of four.
	|	Nicolas Steno__was trained in the classical texts on science.
Grammar:		
incl. punctuation, superfluous	|	Isometric crystals are also isotropi<u>c He</u>re light <u>propagates</u> at the same speed.
words, transpositions	| |	Rocks are composed of many ~~many~~ (minerals mixed.)
Style:		
incl. paragraph,	|*Para.*	... in the geologic sciences.¶Near the end of the 19th a new theory ...
repetitive expressions / words	|||*rep*	... is a <u>light colored</u> mineral. These <u>light colored</u> minerals are often <u>light</u>...
erroneous expression / words,	|	Stalactites hang from the <u>sealing</u>? of a limestone cave.
sub- or superscription,	|*sup*	The density of quartz is 2.65 g/cm3.
unprofessional style,	| |	<u>I was</u> investigating the outcrop with <u>my</u> group.
word insertion	|	Sodium sulfate forms a chalky, ~~incoherent~~ precipitate. *amorphous?* ∧
Sentence:		
incl. grammar,	|	The density of gold is greater <u>then</u>? the density of silver.
run-on,	|	Pyrite has a symmetrical crystal <u>structure, it</u> is cubic.
strings of nouns	| |	<u>Skarn mineral zonation</u>? is apparent in the sample.

Content
Errors in content are spelled out. Severe infractions may count for multiple errors.

Errors / Mistakes / Faults	Examples with margin *Fault Counter & Codes*	
Unclear / erroneous statements	|*unclear, units?*	<u>Mohs hardness of the mineral in question is 16.5.</u>
False / nonsense	||*Nonsense*	~~Glaciation cause severe metamorphism of the region~~