SWOT Analysis of Your Teaching

Strengths What aspects of your personality/nature/skills will help you teach well?	**Weaknesses** What aspects of your personality/nature/skills will you need to be conscious of and develop to teach well?
Opportunities What knowledge and professional skills will you develop through your GE assignment?	**Threats** What outside events or requirements might make it difficult to do your job well?

100 questions that promote Mathematical Discourse

Help students **work together** to make sense of mathematics

1. What **strategy** did you use?
2. Do you **agree**?
3. Do you **disagree**?
4. Would you **ask the rest of the class** that question?
5. Could you **share your method** with the class?
6. What part of what he said **do you understand**?
7. Would someone like to **share** ___?
8. Can you **convince the rest of us** that your answer makes sense?
9. **What do others think** about what [student] said?
10. Can someone **retell or restate** [student]'s explanation?
11. Did you **work together**? In what way?
12. Would anyone like to **add to what was said**?
13. Have you **discussed** this with your group? With others?
14. Did anyone get a **different answer**?
15. **Where** would you go for **help**?
16. **Did everybody get a fair chance** to talk, use the manipulatives, or be the recorder?
17. How could you help another student **without telling them the answer**?
18. **How would you explain** ___ to someone who missed class today?

Help students **rely more on themselves** to determine whether something is mathematically correct

19. Is this a **reasonable answer**?
20. Does that make **sense**?
21. **Why** do you think that? Why is that true?
22. Can you **draw a picture or make a model** to show that?
23. **How** did you reach that conclusion?
24. Does anyone want to **revise** his or her answer?
25. **How were you sure** your answer was right?

Ready®

Help students learn to reason mathematically

26 **How did you begin** to think about this problem?

27 What is **another way** you could solve this problem?

28 How could you **prove** _____?

29 Can you **explain how your answer is different from or the same as** [student]'s answer?

30 Let's **break the problem into parts**. What would the parts be?

31 Can you **explain this part more specifically**?

32 Does that **always work**?

33 Can you think of a case where that **wouldn't work**?

34 How did you **organize** your information? Your thinking?

Help students evaluate their own processes and engage in productive peer interaction

35 What do you need to do **next**?

36 What have you **accomplished**?

37 What are your **strengths and weaknesses**?

38 Was your **group participation appropriate and helpful**?

Help students with problem comprehension

39 What is this problem about? What can you **tell me about it**?

40 Do you need to **define or set limits** for the problem?

41 How would you **interpret** that?

42 Could you **reword that in simpler terms**?

43 Is there something that can be **eliminated** or that is **missing**?

44 Could you **explain** what the problem is asking?

45 What **assumptions** do you have to make?

46 What do you **know** about this part?

47 Which words were **most important**? Why?

Help students learn to **conjecture, invent, and solve** problems

48 **What would happen if ___?**

49 Do you see a **pattern**?

50 What are some **possibilities** here?

51 Where could you find the **information** you need?

52 How would you **check your steps** or your answer?

53 What **did not work**?

54 How is your solution method the **same as or different from** [student]'s method?

55 Other than retracing your steps, **how can you determine** if your answers are appropriate?

56 How did you **organize** the information? Do you have a **record**?

57 How could you solve this using **tables, lists, pictures, diagrams**, etc.?

58 What have you tried? What **steps** did you take?

59 How would it look if you used this **model** or these **materials**?

60 How would you draw a **diagram or make a sketch** to solve the problem?

61 Is there **another possible answer**? If so, explain.

62 Is there **another way to solve** the problem?

63 Is there **another model** you could use to solve the problem?

64 Is there anything you've **overlooked**?

65 **How did you think** about the problem?

66 What was your **estimate or prediction**?

67 How **confident** are you in your answer?

68 **What else** would you like to know?

69 What do you think comes **next**?

70 Is the solution **reasonable**, considering the context?

71 Did you have a **system**? Explain it.

72 Did you have a **strategy**? Explain it.

73 Did you have a **design**? Explain it.

Help students learn to **connect mathematics, its ideas, and its application**

74. What is the **relationship** between ___ and ___?

75. Have we ever solved a problem **like this before**?

76. What uses of mathematics did you find in the **newspaper** last night?

77. What is the **same**?

78. What is **different**?

79. Did you use skills or build on concepts that were **not necessarily mathematical**?

80. Which **skills or concepts** did you use?

81. What **ideas** have we explored before that were useful in solving this problem?

82. Is there a **pattern**?

83. **Where else** would this strategy be useful?

84. How does this **relate** to ___?

85. Is there a **general rule**?

86. Is there a **real-life situation** where this could be used?

87. How would your method work with **other problems**?

88. What other problem does this seem to **lead to**?

Help students **persevere**

89. Have you tried making a **guess**?

90. **What else** have you tried?

91. Would **another method** work as well or better?

92. Is there **another way** to draw, explain, or say that?

93. Give me another **related problem**. Is there an easier problem?

94. How would you **explain** what you know right now?

95. What was **one thing you learned** (or two, or more)?

96. Did you **notice any patterns**? If so, describe them.

97. What **mathematics topics** were used in this investigation?

98. What were the **mathematical ideas** in this problem?

99. What is mathematically **different about these two situations**?

100. What are the **variables** in this problem? What stays **constant**?

Help students focus on the mathematics from **activities**

Tips for GEs Teaching for the First Time

Getting ready to teach

1. Work with the lead instructor to make sure you understand how you will work together. Ask questions and don't be afraid to present your ideas. See the *Team Teaching Checklist* for things you might want to discuss.
2. Think about how you will present yourself.
   a. How will you communicate with students? Will you share your phone number? Use social media? Email only? Taking care to be professional when communicating with students provides them a model to learn from.
   b. Do you want to use the way you dress to influence your interactions with your students?
3. Make an initial plan of how you will spend your time. Revise this once your own classes have begun and you know when assignments will be due and exams are scheduled.
4. If teaching face-to-face, visit your classroom or lab. Learn where things are and how to use the equipment, including any classroom technology like Crestron equipment control panels, projectors, document cameras, etc. Who can help if you have a problem?
5. Make a plan for the day. Do the experiment, work all problems, and try to anticipate different approaches students will take and places they might go wrong.
6. Get emotionally ready for class. Just before going to class, focus your mind on the goals for the day and the things you might be looking forward to - interacting with students, helping them learn the day's material, and responding to the questions and ideas that they bring to class.

During class

1. Be organized. Arrive early, start and end on time.
2. Create community. Greet students as they arrive, call them by name, show care for their wellbeing, make conversation, help students connect with others. Smile sometimes!
3. Manage people.
   a. Invite everyone to participate.
   b. Encourage quiet people and provide opportunities for them to develop and demonstrate knowledge and skills in ways that might feel less stressful than whole-class situations.
   c. Discourage dominators by establishing rules for participation, like asking for three students to raise their hands before choosing one to call on. Point out that you'd like to hear from someone new. Recruit dominators' help by asking them to help others.
   d. Help students build self-reliance by finding the answers to their own questions, by reading class materials and talking with peers.
   e. Hold students to the rules, especially when it comes to safety, but also recognize that many students have real problems that may be eased by flexibility on your part if it's possible. "Structure (for students) when it helps, flexibility when it doesn't."
4. Show passion for the topic and for your students' learning! If you're not excited about it, your students probably won't be either.

5. If you don't know the answer, admit it and work to find it. If needed, say you'll get back to them and be sure to follow through. Model what a scientist does to solve problems.

After class

Reflect on how it went. Write some notes on things that went well and what you would change to do better next time. Fill out a self-evaluation form.

Grading

1. Be fair. Create and use a rubric, which specifies exactly what students need to do to earn different amounts of points.
2. Give constructive feedback (or "feedforward" that they can use to improve next time). Be kind, and let students know you are being critical because you are confident that they can do better. To do that, they need to know what things need work.
3. Be prompt. The sooner students get constructive feedback, the sooner they can use it to improve subsequent work.

Setting Expectations for Teaching Teams

These goals and questions should prompt teaching teams to establish explicit expectations about how they'll work together logistically and pedagogically. We recommend faculty leads create a written record of answers to key questions that resonate for their course, then create an opportunity to discuss—potentially revise—that record together with their graduate employees.

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1. Planning and Coordination
Goal: Students experience the course as a unified learning experience.

- How will we meet as a teaching team and how often? [e.g. on Zoom once per week]
- What will be the purpose of these meetings? [e.g. check in about trends in student understanding and motivation, brainstorm teaching strategies, norm our grading, etc.]
- Who will be in charge of what areas of Canvas?

Recommendation: UO Online urges teams to use the <u>main Canvas site only</u> in the case of sections and labs that are required co-enrollment experiences meant to deepen learning in the overarching course (as opposed to more independent or stand-alone experiences.

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2. Purview and Communications
Goal: The team has a clear communication plan for the course that favors streamlined and "high value" contacts (contacts that reflect on specific contributions, are personalized, and drive student curiosity and connection).

- If a student has a question or concern, who should be the first point of contact – their GE, the instructor, either/or?
- Which particular questions, concerns, topics, etc. should GEs address, and which should go to the instructor?
- In which cases, and when, should GEs inform the instructor about a concern or issue that has emerged with a student?
- What is our preferred way to communicate with each other? [e.g. email, text, etc.]
- What is the preferred way we should communicate with students? [e.g. Canvas, email, etc.]
- What is a reasonable timeframe to expect responses from each other?
- How should GEs communicate concerns or questions about teaching challenges, work hours, etc.?

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3. Course Curriculum and Pedagogy
Goal: Different teaching modalities are harnessed for their different strengths.

- What are the key learning goals of this course?
- Which content is likely to be most challenging for students?
- What are the main pedagogical approaches to teaching in this course, and are there specific approaches expected for section/lab?
- What should be the primary focus of section or lab? [e.g. discuss readings or lecture, review or clarify content, introduce new content, develop specific skills, etc.]
- Should sections/labs use the same outlines and be more or less uniformly consistent in format, or can GEs plan their own lessons and formats?
- Which modalities will we be using in the course? [e.g. asynchronous online and synchronous sections/labs] How do they work together to reinforce each other?

4. Course Grading and Feedback
Goal: Assessment in the courses is explicitly linked to course objectives; students understand how they'll be graded and what 'good' work means before they begin assignments, experience consistency across members of the team, and have a chance to practice before any high-stakes assessments.

- What are the grading criteria for assignments, projects, exams, etc.?
- Who will develop grading criteria – instructor, GEs, both together?
- How will grading criteria be communicated to students? [e.g. rubrics]
- What is the expected turnaround time for grading assignments, projects, exams, etc.?
- What kinds of feedback should be given? [e.g. corrections, pointers, proofreading, etc.]
- What will be the mode for feedback? [e.g. comments in Canvas]
- Will grades be hidden until all assignments, projects, exams, etc. are graded?
- Who will manage the gradebook in Canvas?

5. Course Policies and Contingencies
Goal: The COVID context requires both clear structure and flexibility from the teaching team.

- Who is primarily responsible for enforcing course policies?
- Are there certain policies that GEs should enforce, and certain policies that the instructor should enforce?
- What kind of discretion or latitude do we have when it comes to policies, and how will ensure consistency in what we do?
- How will we handle extensions/special circumstances, etc.?
- Should or can sections/labs have their own "mini syllabus" with special polices, expectations, or ground rules that supplement the main course?
- Have we enacted unit- or UO guidance on COVID contingencies for "if one of us gets sick," etc.?
- If we have face-to-face sections or labs, what is our plan for pivoting to fully remote if this becomes necessary? How should the labor needed be shared or distributed?

Teaching and Academic Support Resources

Accessible Education Center
http://aec.uoregon.edu/
Support for students: Academic advising assistance and problem-solving, adaptive technology (computer programs and equipment for reading and writing), computer based note-taking and note-taking assistance, lab assistance and modification, instructor notification regarding adjustments that need to be made for student accessibility, exam adjustments (e.g., additional time, alternative format, etc.), sign language interpreting, and specialized equipment loans.

Support for instructors navigating student accommodation needs.

Center for Multicultural Academic Excellence
https://inclusion.uoregon.edu/center-multicultural-academic-excellence-cmae
CMAE offers academic support, scholarships and academic programs, sponsors student leadership activities, and provides funding for activities through its grant program.

Counseling Services
http://counseling.uoregon.edu
Individual and group counseling for students, community referrals, substance abuse and eating disorder support, support for special populations (international students, veterans). The Testing Office is responsible for the administration, scoring, and maintaining of records for a wide range of nationally and internationally recognized standardized tests.

Information Services
https://is.uoregon.edu
Everything related to physical and virtual computer and technology infrastructure on campus: computers, devices, printers, software, Internet, email, and consulting and resources on a variety of IS topics. IS provides classroom technology design and maintenance, streaming media services. IS also provides Zoom support.

Office of the Dean of Students
https://dos.uoregon.edu/

Student conduct and community standards, substance abuse prevention, sexual violence prevention, LGBTQ+ education and support, diversity education and support, veterans and non-traditional student resources, and more.

Tutoring and Academic Engagement Center
http://engage.uoregon.edu/
TAEC offers workshops and courses on time management, test preparation, etc., as well as synchronous and asynchronous tutoring in math, writing, languages, and the sciences.

Teaching Engagement Program
http://teaching.uoregon.edu/
TEP offers a variety of activities and services supporting the academic community in its focus on teaching and learning. Services include feedback on teaching performance through classroom observation, private consultation, departmental training, and workshops. TEP also sponsors the Graduate Teaching Initiative. TEP services are free to all who teach— faculty members, graduate student instructors, staff and university departments. All consultations and services are confidential.

University of Oregon Libraries
http://library.uoregon.edu/
The UO Libraries' mission is to enrich the student learning experience, encourage exploration and research at all levels, and contribute to advancements in access to scholarly resources.

UO Online
http://teaching.uoregon.edu
UO Online provides support for instructors developing and teaching fully online courses. This includes consultations, Canvas support, a media studio to assist with creating videos, and more.