T|L|C

Teaching and Learning Center

UNIVERSITY OF WASHINGTON TACOMA

Tutor Guide

For Quantitative Center

Contents

Training and Orientation Syllabus

As an employee of the TLC, you are required to participate in training events such as meetings, observations, and self-directed study.

Beginning your training
- If a new tutor:
  - Begins in the fall, initial training and orientation will occur prior to start of Autumn quarter.
  - Begins during the school year, initial training will consist of meetings with the Quantitative Coordinator to cover specific topics within the training manual and other material as appropriate.
- Observing experienced tutors during the first several shifts of employment allows a new tutor to get an idea of how tutoring sessions should run, and also how the experienced tutors have developed their own unique styles.
  - Volunteer to observe any tutor; experienced tutors, don't forget that others may be in need of training.
  - Take notes and keep track of questions you would like to ask the tutor or professional staff later.
  - Keep track of ideas from training sessions and staff meetings and see how they are used in actual sessions.

Continuing your training

- Sitting in on other tutors' sessions is a part of ongoing training for all tutors.
- Monthly staff meetings will give tutors an opportunity to discuss ideas and issues with the entire group.
- Tutors are encouraged to create learning goals every quarter and are able to work toward this goal while at the TLC.

About the TLC

Mission Statement

The TLC supports the development of all UW Tacoma students into self-directed, lifelong learners on their pathways to academic success and beyond.

Diversity Commitment

The Teaching and Learning Center (TLC) is committed to diversity as a core value and actively works to increase diversity awareness and inclusion in our teaching and learning activities and in our workplace.

Our Philosophy

- Students are the reason we exist
- All tutoring sessions are voluntary
- Students direct the session with their questions/concerns
- Sessions help students become independent learners by explaining the hows and whys of an assignment
- Tutors do not provide solutions for student's assignments, as doing so is considered academic dishonesty and fails to provide authentic learning experiences

Services Offered at the TLC

Math, Statistics, Science and Other Quantitative Fields Assistance

- Help with courses at UW Tacoma in mathematics, statistics, science, accounting, and economics
- Drop-in sessions for the aforementioned topics
- Workshops led by professional staff members and by peer tutors
- Review of mathematical knowledge that is expected from students coming to UW Tacoma
- Support in using software and calculators for math and statistics
- Help with how to study math and other quantitative subjects

Writing Services

- One-on-one conferences with a writing consultant for 25 or 50 minutes
- Online writing consultations
- Writing strategies
- Tools and resources for all stages and aspects of the writing process
- Techniques for approaching large amounts of reading
- Objective feedback on individual and group presentations

Other services

- Help for students whose first language is not English
- Tutoring for Spanish language courses
- Spanish, Chinese, and English (for non-native speakers) conversation hours
- Faculty support

Employee Information

Tutor Job Responsibilities

Quantitative Tutors' Duties & Responsibilities:

- Collaborate one-on-one or in groups with students to provide academic and skills support and to help them meet their academic goals in UWT's quantitative courses

- Provide explanations of appropriate quantitative concepts and techniques for a given task or assignment
- Help students develop learning strategies
- Set and meet quarterly goals with professional staff to help develop and advance the resources of the TLC
- Perform routine tasks including greeting students, answering phones, helping students, and maintaining data
- Attend scheduled meetings and training events
- Assist with TLC quantitative workshops, student orientations, and classroom visits

Attendance and Related Policies

Please show up for your shift on time and ready to start work. If you will be delayed or cannot make a shift, please email and/or call your supervisor (contact info is below). Please see the general employee handbook for more information on attendance and related policies.

Tutoring Basics

The Role of a Tutor

In order to be a successful tutor, it is important not only to understand the job duties, but also the goals of tutoring. These goals have been paraphrased from *The Master Tutor* (MacDonald, 2000).

- **Promote independence in learning**
  A good tutor is one who eventually makes themselves obsolete to a student. If the student does not develop into an independent learner, they will always need the crutch of a tutor. Students may come back to us many times, but eventually the frequency should decrease as the student becomes more and more confident in their abilities. The student wants to be able to do the work on their own and it is our job to help promote their independence. This goal aligns directly with the second student learning objective.

- **Personalize instruction**
  While working one-on-one with a student, tutors have the opportunity to tailor the instruction to that individual. This can be done by drawing on the student's personal experiences, eliciting feedback from the student, and moderating the pace of the work. The student learns much more when they are able to internalize the ideas and relate the concepts to their life. Tutors are in a special position to personalize the instruction in a way that simply cannot be done in a lecture. This goal directly supports the first student learning objective.

- **Facilitate tutee insights into learning and the learning process**
  By creating an appropriate learning environment and removing roadblocks to learning, the tutor is able to facilitate the student's own insight. When the student is able to make discoveries on their own, not only do they learn more than if a tutor had just explained the answer to them, they also begin to build their own confidence in the subject matter. This goal supports both of the first two student learning objective.
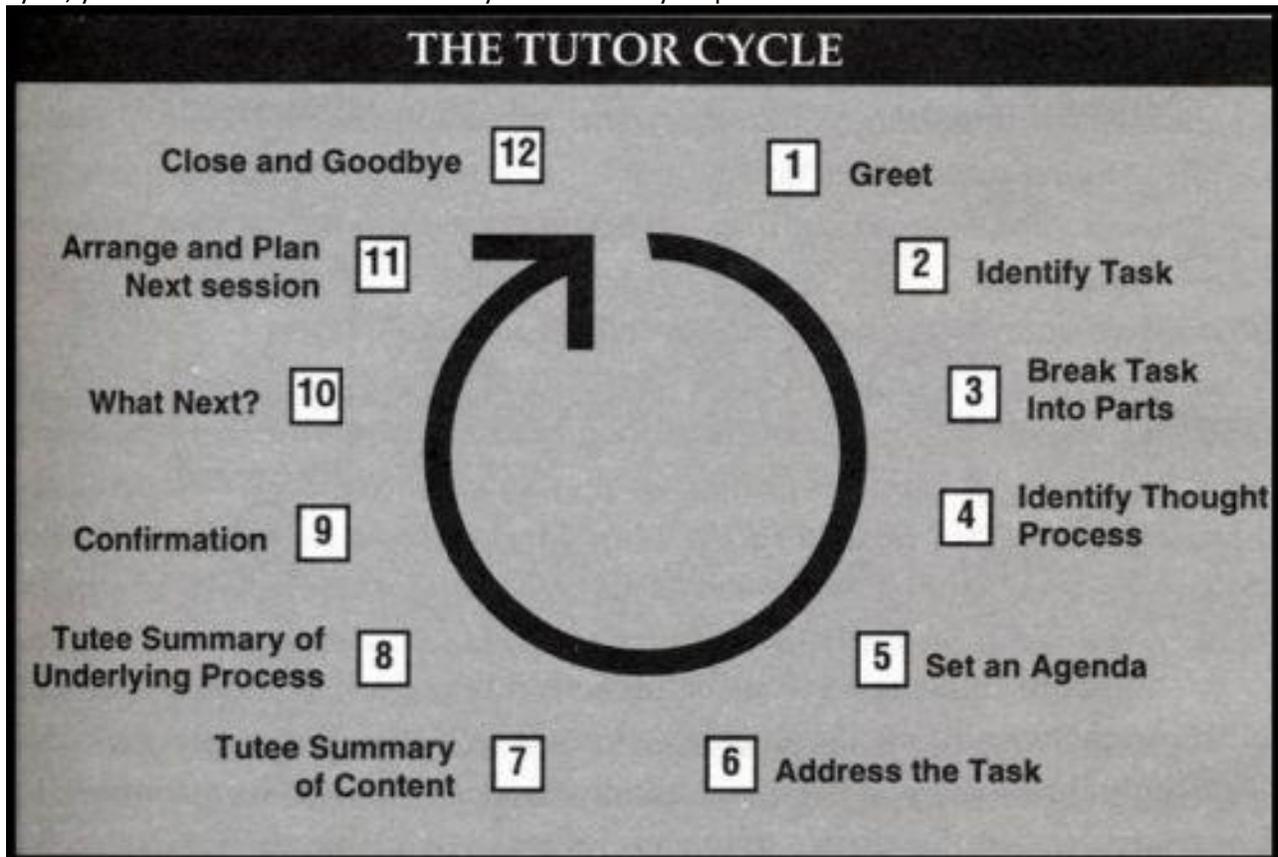
- **Provide a student perspective**

As a peer tutor, you are able to gain rapport with a student that a professor or TA cannot. Since you have no responsibility in assigning grades or the rest of their course, the student is able to let their guard down a little because you are "on their side". Additionally, having completed the same courses successfully lends credibility. This makes your insight into how to be successful even more valuable in the students' eyes.

- **Respect individual differences**
Students at UW Tacoma come from all walks of life and our campus benefits greatly from the richness of diverse learners. It is important to recognize that not every student has had the same opportunities and experiences you may have had. Not every student will have the same study styles or motivation in their courses. You will come across many students who are very different from yourself on a daily basis. This does not make a student inferior or flawed. Always treat the student as an equal and respect the differences they bring to the table.

The Tutoring Cycle

This section is adapted from *The Master Tutor* (MacDonald, 2000). Now that we have discussed the roles of a tutor, let's look more deeply into how to successfully tutor. By utilizing the steps in the tutoring cycle, you will be able to more effectively and efficiently help the student.

THE TUTOR CYCLE

12 Close and Goodbye	1 Greet
11 Arrange and Plan Next session	2 Identify Task
10 What Next?	3 Break Task Into Parts
9 Confirmation	4 Identify Thought Process
8 Tutee Summary of Underlying Process	5 Set an Agenda
7 Tutee Summary of Content	6 Address the Task

(MacDonald, 2000, p. 25)

Beginning Steps

1) Greet student and create an appropriate learning environment.
2) Identify the task – what does the student hope to accomplish?
3) Break the task up into smaller parts, verbalizing what needs to be done.
4) **Identify and discuss the underlying thought processes involved in solving the problem.**

Task Steps
5) Set the agenda for the tutoring session.
6) Address the tasks and steps identified.
7) Have the student summarize the content.
8) Have the student summarize the underlying process.

Closing Steps
9) Confirm the student's correct thinking.
10) Discuss next steps.
11) Arrange and plan next session – not applicable to TLC drop-in tutoring.
12) Finish the session and transition the student to working on their own.

Let's discuss some of these steps more in depth.

1) **Greet student and create an appropriate learning environment**. This step sets the tone for the rest of the student's visit. Every student should be warmly greeted upon arrival to the TLC and periodically checked in with (please see the section below on Starting a Session for more specific information). By acknowledging every student promptly, we set a positive tone and help create a welcoming environment. In creating an appropriate learning environment, there are other considerations as well such as seating. For instance, if you sit across from the student instead of side by side, this could have an effect on how well the session goes.

2) **Identify the task** – what does the student hope to accomplish? It is impossible to make progress if you do not know what the goal is. Make sure to discuss this up front. Please see the section below on Setting Goals in a Tutoring Session.

3) **Break the task into smaller parts, verbalizing what needs to be done**. Most tasks that students need assistance with are multi-part and will need to be broken down in order to be completed. Make sure you allow the student opportunities to carry out this step on their own. Try asking open ended questions and using quiet to solicit ideas from students.

4) **Identify and discuss the underlying thought process**. In this step, you will help the student "learn how to approach solving" a type of problem. This step is highly important for fostering independence in the student. If we just talk the student through solving the problem, we have met the immediate need of answering the question; however the student will not have learned anything he/she can apply later. Try asking the student questions to get them to communicate a detailed procedure. Once the student has articulated what the strategy will be, you can encourage the student to implement their strategy.

5) **Set the agenda for the tutoring session**. When working with students on a drop-in basis, setting an agenda can be quite simple. For instance, you could plan to go over two or three examples with the student and then let them try a few on their own for a while. Remember to be flexible, and also give the student opportunities to direct.

6) **Address the tasks and steps identified**. Once you have set the tone and set an agenda for the tutoring session, you and the student can begin executing the steps. Allow the student to do as much of the work as possible. Remember that the goal is independence, so if the student is stuck or confused, the source of knowledge should primarily be course materials, not the tutor.

7) **Have the student summarize the content.** Once you have completed the task with the student, allow them a few moments to recap what has been done. Most likely, the student will forget the material quickly if the tutor skips this step. This is also an opportunity to ensure that the student really did understand the problem.

8) **Have the student summarize the underlying learning process.** This step helps the student synthesize the material so he/she can be prepared to solve similar problems in the future. Without this step, the student may be able to do a very narrow range of problems, but may become overwhelmed by variations. During this step, the goal is to get the student to explain the thought processes which motivated the steps in solving the problem.

9) **Confirm the student's correct thinking.** Most tutors automatically do this step by saying something such as "Good job!". Try to be specific in your praise of a student, for instance, "Nice job balancing that equation; that was quite a tricky one!" Be careful as well not to overpraise a student – overpraise does not feel genuine and is not meaningful to the student.

10) **Discuss the next steps**. This step helps connect different topics or different problem types a student may be learning and gives them some direction. For instance, you can say, "Now that we have tackled this topic, what will you work on next?" **Remind the student to fill out the "Tutoring Debrief Form" before they leave the TLC.**

11) **Arrange and plan next session**. Since the Quantitative Center primarily operates by drop-in, there is not a need to schedule anything, but you can let students know when the next time they can get assistance and who is able to help them if you are not available. This empowers the student to come back again.

12) **Finish the session and transition the student to working on their own**. Always check to make sure that the student feels satisfied with the assistance provided and does not feel that they were left abruptly. For example, Tutor: "How are you feeling about integration techniques now that we have gone through some examples?" Student: "Much better, thanks!" Tutor: "Glad to hear that! Why don't you keep practicing for a bit and I'll be here if you have other questions?" Student: "Sounds good! Thanks again!" See the section on Ending a Session for more information about how to successfully bring a session to a close.

Starting a Session

Within the TLC, there are often many different people coming and going in an unpredictable fashion. As a result, it is sometimes difficult to keep track of who is looking for assistance, who is just passing through, etc. These are some tips for beginning tutoring sessions in an appropriate manner.

- Before you start a session, make sure your name placard is on the "Who's Available" white board next to the front desk.

- Welcome students as they enter the quantitative area. Position yourself so that you are accessible and can see students sitting in the quantitative area.

- Circulate around the quantitative area frequently. Smile at students, be friendly.

- Periodically check in with students in the quantitative area by asking brief, open ended questions.
  - Good example: "How's your studying going?"
  - Slightly less good example: "Do you need help?" – While this is better than ignoring a student, it is slightly less inviting.

- When a student asks for help, you should come across as excited to help them.
  - Good example: Student: "Can you help me with something?" Tutor: "Absolutely! What subject are you working on?"
  - Worse example: Student: "Can you help me with something?" Tutor: "Yeah, just a minute."

- If a student asks for help while you are with another student, and there are other tutors available, let them know that you may be a little longer, or they can work with another tutor (and give them the name of the other tutor).
  - Good example: Student: "Hey can you help with this precalculus question?" Tutor: "I would be glad to help, but we may be a few minutes longer here. I believe Anna is available now though, she is right over there." Student: "Okay I will ask her, thanks!"
  - Worse example: Student: "Hey can you help me with this precalculus question?" Tutor: "Yeah, you will need to wait though."

- If a student asks for help while you are with another student, and no one else is available in the vicinity, politely let the student know that you will be with them next and apologize for the wait. If you become overwhelmed, ask the front desk if they can check if there is another tutor available – there may be another tutor or professional staff member who is available.

- Before starting a tutoring session, politely remind the student to swipe their card and clock-in at the front desk.

- Once you have sat down with a student, ask a few open ended questions to get an idea of what they are working on, how far they have gotten on their own, what they perceive the trouble to be, and what they would like from you.

- With the student's input, create a goal for the session. Often the goal fairly self-evident -- to master a technique to solve a given problem. You may need to review basics prior, and this should be discussed briefly with the student around the start of a session.
  - Good example: Student: "Can you help with problem 49?" Tutor: "Definitely. It looks like this problem uses summation notation. How familiar are you with this notation?" Student: "Not very." Tutor: "That's okay. Let's take a few minutes to review that, and then we can go on to solve your problem. How does that sound?"

- The student may be anxious or upset. Keep a positive outlook with regards to solving the problems at hand; reassure the student that you will be able to assist them.

- Show empathy for students' struggles, but again, keep a positive outlook and encourage students not to dwell on negative thoughts.

- Treat the student as an equal; we are here to assist students in meeting their academic goals, not to give a grade or pass judgments.

Setting Goals in a Tutoring Session

It is very important for the success of a tutoring session that both tutor and student have the same expectations during a session. The most frequently occurring situation in which the expectations of tutor and student are mismatched happens when the student has unrealistic expectations for either a) how many problems they can get through with the tutor, b) how much content the tutor will teach them, or c) how much time they have with a tutor. When the student and tutor have not communicated expectations, the student can leave a session feeling cheated or dissatisfied.

Here are some ways you can avoid the aforementioned problems:

- Ask the student what they would like to accomplish. After doing this, communicate to the student how much or to what degree you believe you can help them accomplish that. Check that the student is satisfied with these goals. Do not make promises to the student, especially in regards to their grades.
    - Example: Tutor: "What would you like us to do today?" Student: "I want to be able to finish this homework assignment." Tutor: "Okay, sure, let's take a look. I can help you get started on a few of the problems and hopefully have time to give you some pointers that will help you finish the rest on your own. How does that sound?" Student: "That sounds great, thanks!"
    - Note in this example, it is unrealistic (and not very beneficial) for the tutor to sit with the student to do every single problem together. The tutor suggested a reasonable compromise which the student seems happy with.

- After you have discussed goals for the session with the student, briefly discuss what steps need to be taken to meet these goals. This will require looking at what the student has done so far and gauging their level of understanding of the material.
    - Good Example: Tutor: "I see your assignment is on limits. Can you show me what you have tried so far to solve the problems?" Student: "Sure, here's my work so far." Tutor: "Okay, it looks like we might want to discuss some general rules for these types of problems, and then try to do some examples together first. What do you think?" Student: "Sure, I feel pretty lost so maybe we should start at the beginning."

- Periodically throughout the session, assess the progress towards the goals. This need not be extensive, but rather a short mental note of where the student is and what still needs to be done. Occasionally re-iterate to the student the goals and the progress that has been made. The goals may need to be slightly adjusted, and if so you should let the student know.

- Encourage the student, whether or not the goals are met. If goals are not met, try to give students some ideas and point them to appropriate resources that can help them work towards meeting the goal on their own. If goals were met for the tutoring session, you can make some suggestions on what they could work on next.

Tutoring Strategies

The following are some possible strategies to employ while tutoring. Most of us use some of these methods already, but not necessarily all of them. It is vital to the success of a tutoring session that the tutor can adapt to the student's needs, and for this reason we should equip ourselves with other methods we can use.

- **Active Listening** – Active listening is a commonly used communication technique which can be useful in tutoring sessions. It is particularly helpful when trying to understand the needs of the student. In active listening, the listener will feed back to the student what they are hearing to confirm mutual understanding, while not offering suggestions or opinions. If used appropriately, this technique can facilitate the student's better understanding and strengthen their ability to articulate their learning needs and objectives.
  - o Example: Student: "I've got to simplify this expression and reduce it to lowest terms." Tutor: "Alright… so we need to simplify this here." Student: "Hmm, so maybe we should combine the fractions." Notice that the tutor could have jumped in and told the student that they needed to start by combining fractions, but by instead repeating back what the student had said, that gave the student a moment to think about it and come to the correct conclusion on their own. Be careful not to overuse this technique.

- **Probing Questions/Open-ended questions** – Probing questions and open-ended questions can serve several purposes in a tutoring session. They can be used to determine prior knowledge, to direct a student's ideas, or to cause the student to think more critically about their response. Often these questions get at the "why" and "how" of a process or a concept. Open-ended and probing questions can be lower level to confirm that a student knows the basics, or they can encourage deeper reflection and contribute to long term learning. Both are necessary at different times.
  - o (Probing question) Example: Student: "The statement cannot be true." Tutor: "That's right. What would be implied if it were true?" This approach lets the student know that they are correct while encouraging them to elaborate and think more about the problem.
  - o (Open-ended question) Example: Tutor: "What do you know about limiting reagent questions?" This question is more broad than the previous example and is used to ascertain what the student already understands. By asking the student this question, the tutor can determine what needs to be done next and the student can articulate what they do know, further solidifying their knowledge.

- **Quiet Time** – Often while tutoring, we feel the need to fill up any quiet spaces with explanations. However, quiet time can be just as powerful as great explanations. Studies show that students respond best when given five or more seconds after question. Many tutors (and instructors!) feel the need to jump in to help after only one second. Give the students time to process the information. Students' achievement improves significantly when given more time after a question is asked, and after they have given a response (Rowe, 1986).

- **Correcting Students** – While it is easy for most of us to let the student know when they are correct, it can be difficult to let the student know when their answers are incorrect. Often when a student has drawn an incorrect conclusion, several seconds of quiet time can help the student realize their mistake. One of the goals of tutoring is to create independent learners, so allowing

a student time to practice self-correcting is very important. If the student does not recognize their error, probing questions such as "Why did we do this?" or "What if we tried this instead?" can be useful. Always keep corrections positive and non-judgmental with the goal of facilitating the student's insights in mind.

- **Explanation –** Many tutors tend to rely too heavily on explanations. The tutor should not be the sole source of information in a tutoring session. Again, since one of the goals of tutoring is to create independent learners, we should try to direct the student to using appropriate resources so they do not become dependent on the knowledge of the tutor. Further, we should try to coax from the student their own explanation of the problem.

- **Examples and Demonstration** – Examples and demonstration can be very helpful in a tutoring session. The key to successful examples and demonstrations, however, is to use some or all of the above techniques during the example. For instance, during the demonstration, ask the student a leading question to try to get them to think about what to do next. Or instead, ask them a deeper question which requires that they think about why a step was done. The more active and involved the student is in the demonstration, the more likely they are to retain the material.

There are many other tutoring strategies you can employ other than the ones listed here. During your first few sessions, make an effort to try out all of these and discuss with another tutor the results.

Ending Sessions

In some respects, ending a tutoring session can be more difficult that starting one. As a drop-in service, we must pay close attention to what is happening around us and moderate the length of our tutoring sessions appropriately. If several students are waiting for assistance, it will be necessary to come to a reasonable stopping point with the student you are currently working with.

- Make sure expectations are clear about the session *before* the end of the session. If the student thinks they will get an hour of help and is surprised when the session ends after 10 minutes, most likely they will become upset or feel cheated.

- Do not stop the session abruptly; instead give the student notice beforehand.
    - Good example: Tutor: "Let's do an example of this problem type together, and then you can try one on your own. How does that sound?" Student: "Great, sounds good!"
    - Not so good example: Tutor: "It looks like others are waiting, you will need to finish this on your own while I help someone else." Student: "Wait, you're leaving already??"

- Check that the student has understood the overarching concept by asking them to walk you through what you did together.

- Try to give the student some directions as to what to study and what resources to use. This is especially important if you were not able to help as much as the student wanted.
    - Good example: Tutor: "Now that we have gone over quadratic functions, you may want to start on the section for polynomials. Read through that section and try to work out some of the examples on your own."

- Let the student know when they can get assistance again and from whom. You may want to let the student know where they can find our schedule.

- Thank the student for using our service, have them fill out the "Tutoring Debrief Form", and leave them on a positive note.

Tutoring Dos and Don'ts

The following are some general guidelines and things to keep in mind while tutoring at the TLC.

Do be considerate and make the student feel at home within the TLC.
Don't make the student wait to be acknowledged.

Do ask the student questions about their assignment.
Don't tell the student the answers.

Do treat the student as an equal.
Don't talk down to the student or make them feel less than you.

Do encourage the student to utilize resources available to them.
Don't be the sole source of information or try to replace the instructor.

Do be an active listener and allow the student to direct the flow of the session.
Don't do all the talking.

Do ask open-ended questions to help students find their mistakes.
Don't point out problems without giving the student any opportunities to self-correct.

Do give positive and meaningful reinforcement, attached to particular successes, to the student.
Don't patronize the student with empty compliments.

Do establish and maintain professional rapport with students.
Don't act disinterested, but remember you are not their buddy.

Do work as a team and pay attention to the work flow.
Don't act in isolation and without regard for others' work.

Do keep sessions focused on the tasks at hand.
Don't criticize instructors, university employees, or other students.

Do help all students equally and to the best of your abilities.
Don't pick favorites or give preference to students who are "easier" to work with.

Do thank the student and encourage him/her to return to the TLC.
Don't let the student leave dissatisfied.

Do remind the student to fill out the "Tutoring Debrief Form"
Don't forget to ask student to fill out the "Tutoring Debrief Form"

If you have questions or of unsure of what to do, remember that your fellow employees are one of your biggest resources. Always feel free to ask the tutor lead, your supervisor, or other tutors.

Appendix

Contact Information

Teaching and Learning Center
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Main line: (253) 692 - 4417
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Quantitative Associate Director email: dwaynech@uw.edu

Science instructional Consultant: Carly Gelarden
Science instructional Consultant phone: (253) 692-4995
Science instructional Consultant email: gelarc@uw.edu

Math/Statistics Instructional Consultant: Su-Miao Lai
Math/Statistics Instructional Consultant phone: (253) 692 - 4324
Math/Statistics Instructional Consultant email: sml10@uw.edu

Program Coordinator: Carolyn Maxson
Program Coordinator phone: (253) 692 - 5781
Program Coordinator email: cmaxson@uw.edu

Resources for Students

Student Affairs
MAT 352
(253) 692 – 4501
uwtsaes@uw.edu

Student Health & Wellness
MAT 354
(253) 692 – 4522
uwtshaw@u.washington.edu

Student Health Services
1742 Market Street (Longshoremen's Hall)** needs to be updated
(253) 692 – 5811
uwtshs@uw.edu

Disability Support Services
MAT 354
(253) 692 – 4522:
dssuwt@u.washington.edu

Financial Aid Office
MAT 213
(253) 692 – 4374
uwtfa@uw.edu

Academic Advising Center
JOY 214
(253) 692 – 4857
uwtaac@uw.edu

Diversity Resource Center
WCG 104
(253) 692 – 4744

Office of the Registrar
MAT 253
(253) 692 – 4414
reguwt@uw.edu

Bibliography

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