
Diagnostic BioMEMS Final Assessment

Participant Guide

Introduction

The purpose of this assessment is to determine your understanding of bioMEMS diagnostics applications and devices. This knowledge leads to an understanding of the importance of diagnostics in BioMEMS applications. Before completing this assessment, should read the primary knowledge unit and complete the related activity.

There are ten (10) assessment questions.

1. **What are two stumbling blocks for the development and use of diagnostic bioMEMS devices?**

2. **What characteristics of bioMEMS make them advantageous for diagnostic testing?**

3. **Name at least three areas of diagnostic medicine that are being impacted by bioMEMS devices?**

4. **What is molecular diagnostics?**

5. **What do μ TAS and LOC stand for?**

6. **What is the difference between a μ TAS and LOC?**
7. **Define medical imaging.**
8. **What is an example of medical imaging that can be improved by MEMS technology?**
9. **Based on the basic design of the artificial receptor LOC, how would you design a chip that would detect HIV?**
10. **Based on the advantages of diagnostic bioMEMS devices, pick one chronic condition that people may have (e.g. diabetes), and briefly explain how that condition could benefit from continuous monitoring of an implantable bioMEMS.**

The Diagnostic Learning Module was developed in conjunction with Bio-Link, a National Science Foundation Advanced Technological Education (ATE) Center for Biotechnology @ www.bio-link.org.

Support for this work was provided by the National Science Foundation's Advanced Technological Education (ATE) Program through Grants. For more learning modules related to microtechnology, visit the SCME website (<http://scme-nm.org>).