

## Intel® Teach Elements

# Designing Blended Learning

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**Instructions:** Click any of the activity names in the Contents to go directly to that section. On a PC, click or press Ctrl+click to make your selection. On a Mac, press Command+click. Type your notes in the sections indicated.

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## Module 1: Blended Learning Overview

### Lesson 1: Blended Learning Basics

#### Activity 3: Why Blended Learning

**Estimated Time:** 10 minutes

What are your motivations for learning about or pursuing blended learning? Record your ideas below.

I like to try new things, and I see how my students are really motivated by using technology. I'm also hoping that blended learning strategies will help students who fall behind. Every year there seems to be a bigger gap between those students who get concepts right away and those who struggle. Maybe blended learning can help reduce that gap.

## Module 1: Blended Learning Overview

### Lesson 2: Blended Learning Models

#### Activity 3: The Flipped Classroom

**Estimated Time:** 10 minutes

Where do you see yourself on the blended learning continuum? Choose one.

Mostly Online    More Online    Even Mix    More Face-to-Face    Mostly Face-to-Face

Where on the blended learning continuum would you like to be in six months?

Choose one.

Mostly Online    More Online    Even Mix    More Face-to-Face    Mostly Face-to-Face

What are some changes you will need to make?

I'll need to check out what kinds of technology are available and what my students can do with it. I'll also need to get my own technology skills in line with newer online services.

## Module 1: Blended Learning Overview

### Lesson 3: Blended Learning Shift

#### Activity 3: Technology Shift

**Estimated Time:** 10 minutes

How do you see your role changing in a blended environment?

I'm used to being a hands-on kind of teacher. I spend a lot of time interacting with students, sometimes too much, I think. As we move to more online activities, I see myself having to

learn new ways of interacting with students and of understanding how they are doing. I rely a lot on facial expressions to let me know if students understand. I see myself having to think about when it's necessary for me to see my students and when they can communicate with me in other ways.

How do you see the role of technology in your classroom shifting?

I can certainly see that students will be accessing technology more often out of my direct supervision. I'm used to seeing their screens when they use computers in class, so I'm going to have to adjust how I set up activities. I can also see that I'll be more concerned about how students access technology out of the classroom and outside of school hours.

## **Module 1: Blended Learning Overview**

### **Lesson 4: Module Review**

#### **Activity 1: Module Summary**

**Estimated Time:** 5 minutes

Reflect on your learning in this module.

It was exciting to see all the different ways I could blend my classroom. I got lots of ideas that I think will work with my subject area and my philosophy of teaching.

## Module 2: A Blended Learning Framework

### Lesson 1: Considerations for Blended Learning

#### Activity 3: Content Standards and Objectives

**Estimated Time:** 15 minutes

What purposes are you considering when designing blended learning for your classroom?

Purposes of Blended Learning

- Differentiation
- Flexibility
- Student Engagement
- New Technology

I'd like to try blended learning to meet the needs of the wide range of my students better. I'm also hoping the flexibility of blended learning strategies will help students who frequently miss afternoon classes because of extracurricular activities.

What content would you like to address with blended learning strategies?

I teach several units that I think might benefit from blended learning—basic introduction to geometry concepts, angles, triangle relationships, and polygons.

What blended learning design best fits with your content and objectives?

Blended Learning Designs

- Single blended unit
- Integration of blended strategies into several units

I'm going to start by looking at some blended learning strategies that I can use in several different units.

## Module 2: A Blended Learning Framework

### Lesson 2: Technology and Blended Learning

#### Activity 2: Available Technology

**Estimated Time:** 15 minutes

Describe your impressions of the technology your students have access to.

Location	Available Technology
In school	We don't have a lot of computers. We do have a computer lab,

	but it always seems to be full. I can sign up for the mobile lab, but I have to think ahead. There are 10 computers in the library, and I think they're available for students during lunch, and before and after school. I also know that there are a couple computers in the coaches' offices that students sometimes use.
<b>Out of school</b>	I'd guess that most of my students have computers with Internet access at home, but we do have some homeless students who obviously don't. Also, it seems like they all have smartphones, but we have a lot of students on free or reduced lunch, and I'm guessing that many of those students don't have phones they could use for schoolwork.

How do you see access to technology influencing your blended learning design?

This will be tricky for me. I want those students with lots of technology at their disposal to be able to take advantage of it, but I don't want any students to be shortchanged because they don't have technology. I'll have to check on community access and find out from individual students what they have. To start out at least, I'm going to keep the technology requirements pretty simple and basic.

## Module 2: A Blended Learning Framework

### Lesson 3: Blended Instructional Activities

#### Activity 5: Independent Learning Activities

**Estimated Time:** 15 minutes

Brainstorm some ways you could make blended learning activities part of your instruction.

<b>Instructional Activity</b>	<b>How You Might Use It in a Blended Environment</b>
<b>Communication</b>	Students could work with architect mentors on our design projects. I also like the idea of students sharing their expectations about geometry at the beginning of the year in an online discussion forum.
<b>Collaboration</b>	Some years, I've had my honors students do a geometry-focused newspaper related to the book <i>Flatland</i> . I think this would be a good unit for integrating some online collaboration. I can also see including some online collaboration for small projects and activities, like proofs and constructions.
<b>Presentation</b>	This is really an area I'd like to explore. I know there are lots of videos online demonstrating and explaining different geometric concepts. I have some demonstrations I do that work really well that I can see myself recording to put online.
<b>Independent Learning</b>	I think these activities can really help me with the differentiation aspect of blended learning. The online tutorials

	and practice quizzes can get students up to speed on more difficult topics.
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## Module 2: A Blended Learning Framework

### Lesson 4: Plans for Blended Learning

#### Activity 2: Examples of Blended Learning

**Estimated Time:** 15 minutes

Sketch your plan for implementing blended learning.

Option 1: Integration of blended learning strategies throughout several units

Basic Geometric Concepts	Communication	<p>Online discussion where students review what they know and what questions they have about geometry, followed by a whole-class discussion about the topic.</p> <p>Walking tour of school neighborhood where students identify geometrical shapes and send photos to an online class photo album.</p>
Angles	Presentation	<p>Video modeling the construction of the bisector of a given angle.</p> <p>Video on how to construct an angle congruent to a given angle and a line perpendicular to a line at a given point.</p> <p>Give a few sample exercises for students to do at home after watching the video. Students work on problems in small groups in class.</p>
Triangle Relationships	Presentation	<p>Narrated slideshow explaining the kinds of triangles and their properties, with pauses where students identify triangles in an online worksheet. In small groups, students classify triangles in photos.</p> <p>Videos on how to apply the Triangle-Angle Sum Theorem, the Isosceles Triangle Theorem and its converse, and the Exterior Angle Theorem. Students do problems in class.</p>
Triangle Relationships	Communication	<p>Students do research on how triangles are used in engineering and architecture, and discuss through a social network.</p>
Polygons	Presentation	<p>Videos on how to determine the measure of interior and exterior angles of both</p>

		regular and nonregular polygons, and the perimeter and area of triangles and quadrilaterals using the appropriate formulas. Students do follow-up class work on problems with partners.
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Option 2: Blended unit

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## Module 2: A Blended Learning Framework

### Lesson 5: Module Review

#### Activity 1: Module Summary

**Estimated Time:** 5 minutes

Reflect on your learning in this module.

I like how this module got me thinking concretely about blended learning and what it would look like in my classroom. It surprised me that the more I thought about it, the more ideas I had for giving students online experiences that support and enhance what happens in the classroom.
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## Module 3: Tools and Resources for Blended Learning

### Lesson 1: Learning Management Systems

#### Activity 3: Success with Learning Management Systems

**Estimated Time:** 15 minutes

What learning management systems would you like to investigate? Create a list of LMS features and tools that might be most beneficial for your blended learning environment.

Learning Management System	Features and Tools to Look For
Moodle	<ul style="list-style-type: none"><li>• Threaded discussion forum</li><li>• Mail</li><li>• Grade book</li><li>• Calendar</li><li>• Privacy settings</li></ul>
Schoology	

## Module 3: Tools and Resources for Blended Learning

### Lesson 2: Tools for Blended Learning

#### Activity 5: Teacher Productivity Tools

**Estimated Time:** 10 minutes

Which tools from the Blended Learning Toolkit would you like to incorporate in your blended learning design?

Curriculum Presentation Tools
Videocasting and narrated slideshows
Collaboration and Social Media Tools
Wikis, project management sites, collaborative writing
Digital Media Tools
Narrated slideshows, mind mapping, animation
Teacher Productivity Tools
Project trackers, data collection

## Module 3: Tools and Resources for Blended Learning

### Lesson 3: Support for Blended Learning

#### Activity 1: Professional Resources

**Estimated Time:** 10 minutes

What professional resources could help support you in the process of implementing your blended learning plan?

Professional Resource	How It Will Support Implementation
<a href="#">Intel Teachers Engage</a>	I joined the community a while ago but haven't been very active. I think it will be a good place to find teachers who are kind of in the same place as I am. I'm sure they could give me some pointers.
<a href="#">National Council of Teachers of Mathematics</a>	NCTM is really a good place to find ideas for integrating technology into math instruction. The good thing about using their resources is that they are always very focused on standards.

## Module 3: Tools and Resources for Blended Learning

### Lesson 4: Module Review

#### Activity 1: Module Summary

**Estimated Time:** 5 minutes

Reflect on your learning in this module. What tools and resources are you most likely to use in your blended learning design?

This was a great module! I love learning about all these tools, and my mind is racing with ideas. I can't wait to try them out.

## Module 4: Assessment and Blended Learning

### Lesson 1: Purposes of Assessment

#### Activity 2: Formative Assessment

**Estimated Time:** 15 minutes

Describe formative assessment methods you currently use in your classroom and the purposes they serve.

Assessment Purposes

- Gauging Student Needs
- Encouraging Self-Direction and Collaboration
- Checking Understanding

Formative Assessment Methods	Assessment Purposes
Pre-quizzes and journals	Gauging student needs
Journals, observation, checklists	Checking understanding

Discuss the assessment goals you have for your blended learning plan.

I realize that without my direct supervision, my students will have to be much more self-directed. I also want to learn more about my students' understanding of geometric concepts and skills so I can plan instruction to meet all students' needs.

## Module 4: Assessment and Blended Learning

### Lesson 2: Formative Assessment Strategies

#### Activity 3: Formative Assessment of Content

**Estimated Time:** 15 minutes

Describe the formative assessment methods you will use to address all purposes in your blended learning plan. Be sure to include formative assessment of both content and learning processes.

Formative Assessment Purposes	Assessment Methods
Gauging Student Needs	Checklists
Encouraging Self-Direction and Collaboration	Self-assessment checklists, conferences, peer assessment
Checking Understanding	Online quizzes

## Module 4: Assessment and Blended Learning

### Lesson 3: Summative Assessment

#### Activity 4: Portfolios

**Estimated Time:** 10 minutes

Describe the kinds of summative assessment you will use to support blended learning in your classroom.

I think mostly I will continue to use exams although I will try out some online practice exams to see if they are helpful for students. We do a couple of projects and those would have rubrics.

## Module 4: Assessment and Blended Learning

### Lesson 4: Assessment Timelines in Blended Classrooms

#### Activity 2: Sample Assessment Plans

**Estimated Time:** 20 minutes

Describe the assessment methods and instruments, and how you will use them to support learning in your blended classroom.

Timeline	Assessment Purposes	Instrument or Tool	How It Will Be Used
Before Unit	Gauging Student Needs	Online quiz and journal	Students will take the quiz before a unit and write a journal entry discussing what they learned about their understanding of the concepts.
During Unit	Checking Understanding	Observational checklist	I will observe students in groups solving problems.
	Encouraging Self-Direction and Collaboration	Collaboration checklist	Students will self-assess their collaboration skills in group project.
	Self-Direction and Collaboration	Peer assessment	Students will assess each other's collaboration skills and their progress on the project.
End of Unit	Checking Understanding	Online discussion rubric	Students will self-assess their participation in an online discussion and their use of appropriate mathematical language.

	Demonstrating Understanding	Final exam	Students will take a final exam over a unit.
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## Module 4: Designing Blended Learning

### Lesson 5: Module Review

#### Activity 1: Module Summary

**Estimated Time:** 5 minutes

Reflect on your learning in this module.

This module helped me see the opportunities for assessment that I'll have when I incorporate more online activities into my instruction. I also thought of some ways I could do more with assessing skills, such as self-direction and collaboration in the face-to-face environment.

## Module 5: Blended Learning Implementation

### Lesson 1: Considerations for Implementation

#### Activity 3: Blended Learning Program Evaluation

**Estimated Time:** 15 minutes

Reflect on the various considerations for blended learning implementation. How will you incorporate each one in your blended learning design?

Implementation Consideration	How It Will Be Incorporated
Skills Training	Modeling and self-assessment
Pedagogy	There are lots of practical applications of geometry that I haven't explored with my students. I'm thinking that technology will be a great tool for setting up projects and simulations where students apply what they're learning.
Parent Support	I have a Web site and the ability to send out mass e-mails to parents. I'll add a section to the site where I include how they can support their children in blended learning.
Student Support	Formative assessment, links to online resources, and in-class conferences will help me give students the support they need to be successful in the blended learning environment.
Program Evaluation	To begin, I think I'll just keep track of test scores and ask parents to fill out surveys that describe how they feel about blended learning experiences.
Student Feedback	I'll also give a survey to students asking their opinions and include questions about how they feel about blended learning in reflections and student-teacher conferences.

## Module 5: Blended Learning Implementation

### Lesson 2: Blended Classroom Management Strategies

#### Activity 4: Safe and Ethical Online Learning

**Estimated Time:** 15 minutes

What steps will you take to ensure safe and ethical online learning?

Online Learning Consideration	Plan of Action
Internet Safety	Our school has a pretty good policy on Internet safety. I'll review

	it before we begin the blended learning activities.
<b>Netiquette</b>	I think it would be fun to have students do some digital role-playing where I set up some situations and students practice responding appropriately.
<b>Academic Integrity</b>	This is always an issue. I like the idea of requiring annotated bibliographies for projects and also following up projects with specific questions about the working process.

## Module 5: Blended Learning Implementation

### Lesson 3: Blended Learning Challenges

#### Activity 2: Diverse Student Needs

**Estimated Time:** 10 minutes

Reflect on the blended learning challenges that you may encounter. How will you address these challenges?

Blended Learning Challenge	Possible Solutions
Network connectivity	I think I can ease my way into blended learning by focusing on fairly low-tech methods. I'll also have to emphasize to students that if they wait until the last minute and have connection problems, they will have consequences. I expect that some students will have to learn this the hard way!
Parent support	Lots of parents have very traditional expectations of their children's math classes. I've had some pushback in the past over projects instead of the traditional routine of: assign homework—review homework—teach new concept—assign new homework. I've found that I really have to make the effort to keep parents informed and explain why I'm doing what I'm doing. I'm sure I will have to do the same thing with blended learning.

## Module 5: Blended Learning Implementation

### Lesson 4: Module Review

#### Activity 1: Module Summary

**Estimated Time:** 5 minutes

Reflect on your learning in this module. How will you successfully implement your blended learning plan?

This was a nice practical module. It helped me anticipate problems and solutions, and think of strategies I can use to make the implementation of blended learning more successful. I liked the classroom examples.



## Course Wrap-Up

### Summary

**Estimated Time:** 15 minutes

How will you use the ideas presented in the course?

I was excited about trying blended learning with my students, but I was a little bit afraid that it would be more than I, or my students, could handle. I'm happy that now I have some concrete ideas about what I can do, and I think the transition will be easy and exciting for both me and my students.