# Instructional Program Review 2018/19 (Comprehensive)

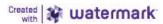
#### **Economics**

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General Information (Instructional Program Review 2018/19 (Comprehensive))



#### 2018/19 Instructional Program Review

#### Program Review Data and Resources

#### Submission Information (REQUIRED)

Lead Writer: Becca Arnold

Liaison: Dina Miyoshi

Department Chair: Tracy Tuttle

Dean: Danene Brown

CTE: No

#### Faculty/staff (REQUIRED)

Data taken from dashboard for Fall 2018.

T/TT: Three
Adjunct: Five

Sections by T/TT: 16

Sections by Adjunct: 13

Percent of FTEF by T/TT: 60.3% (including overload)

Pro Rata: None

#### Program Mission (REQUIRED)

To this writer's knowledge, Economics does not have a Mission statement, having only recently become an actual program. Our Program Outcomes are as follows:

- 1. Critical Thinking
- 2. Global Awareness
- 3. Communication

The Mission Statement by the college is very general, stating their commitment to success, access and equity. Being so general nearly any outcomes would fit into them. Pehaps more relevant would be how we fit into their values, which are listed as:

- Access
- Accountability
- Diversity
- Equity
- Excellence
- Freedom of Expression
- Integrity



- Respect
- Scholarship
- Sustainability

Critical Thinking supports accountability, excellents, integrity and respect

Global awareness supports diversity, freedom of expression, integrity and respect

Communication supports accountability, excellence, freedom of expression, integrity and scholarship.

All three support scholarship.

#### Program Overview (REQUIRED)

Form: 2018/19 Comprehensive Program Review Instructional Program Overview Section (See appendix)

#### ⟨ Curriculum (REQUIRED)

Form: 2018/19 Comprehensive Program Review Instructional Curriculum Section (See appendix)

#### Outcomes and Assessment (REQUIRED)

Form: 2018/19 Comprehensive Program Review Instructional Outcomes and Assessment Section (See appendix)

#### **File Attachments:**

- 1. Econ 121 Assessment Project Two Measurement.docx (See appendix)
- 2. Econ 121 CLOs.docx (See appendix)

#### Program Analysis (REQUIRED)

Form: 2018/19 Comprehensive Program Review Instructional Program Analysis Section (See appendix)

#### Program Goals (REQUIRED)

2018 2019 Goals for Economics	
Goal	
Goal	Mapping
Proctoring Center	CA- Mesa College Strategic Directions



# Form: "2018/19 Comprehensive Program Review Instructional Program Overview Section"

**Created with**: Taskstream **Participating Area**: Economics

#### (REQUIRED) Program name

**Economics** 

#### (REQUIRED) Program strengths

Discuss strengths of the program.

#### Strengths:

Persistence of enrollment: Economics courses are required for many disciplines and therefore enrollment is persistent and consistent. The only issues that have affected enrollment in the last 15 years (beyond cyclical trends affecting overall enrollment) were prerequisite changes mandated by SDSU

Course Growth: In the past five years two courses have been added: Business Statistics and Environmental Economics. Business statistics is actually a BUSE course, but is taught by an economics professor and is an important course for economics students who are majoring in economics or a related field.

Stable Adjunct Professors: A stable group of adjunct professors has helped the program run smoothly. Most have taught at least ten years.

Distance Education: Economics has been at the forefront of distance education, allowing access to students who otherwise would not be able to take the course.

#### (REQUIRED) Program challenges

Discuss challenges to the program.

Distance Education: We would like the opportunity to offer proctored final exams to distance education students. Not all economic professors want this, but some do, and research supports it as a quality offering.

Equipment: 40% of our courses are offered online, and currently the district does not provide us an option for laptops. Because we often communicate with students outside of normal working hourse, and sometimes including virtually, up to date technology is needed.

#### (REQUIRED) External influences

Discuss external influences (Collegewide and beyond).

In the past there has been continual upward pressure on class sizes, which research has shown to be harmful, particularly to online students. I do not know if this will continue.

Also, in the past there has been a lot of office moves causing communication between faculty to be challenging at times. I know for sure this will not continue as we now will have our own building.

The economy is always an influence as it affects enrollment.

#### (REQUIRED) Areas of Focus

Describe one or more areas that your department is focusing on. You will refer to this response in the Program Analysis Section.

Besides principles courses we focus on:

- 1. Developing International Education offerings (campus-wide at this point): Prof. X. Song
- 2. Promoting Environmental/Sustainability awareness across campus: Prof. Becca Arnold
- 3. Supporting Hi-tech's (DSPS) efforts for a proctoring center on campus.
- 4. Support department efforts in team building (currently using Clifton Strengths).

#### The Following Questions are for CTE Programs ONLY.

Enter	"not applicable"	if your program	n is not CIE.	

(REQUIRED) Describe how the program's industry partners (including advisory committee) assist with program improvement including curriculum advice, obtaining equipment, providing internships and finding or providing other funding (limit 500 characters) (P.N. 1.b.). Please upload Advisory Committee minutes from the last year here.

Enter "not applicable" if your program is not CTE.

No answer specified

(REQUIRED) Describe how your program connects to High Schools, Universities and Continuing Education, creating career pathways in your field. Include articulation, specific projects, collaboration with teachers/professors, etc. (limit 500 characters) (P.N. 3)

Enter "not applicable" if your program is not CTE.

No answer specified

# Form: "2018/19 Comprehensive Program Review Instructional Curriculum Section"

**Created with :** Taskstream **Participating Area:** Economics

(REQUIRED) Program Name

**Economics** 

(REQUIRED) What degrees and certificates are offered?

Liberal Arts Social Science in Economics

Associate of Arts in Economics for Transfer

# (REQUIRED) How many of each degree and certificate have been earned in the past 4 years?

2017/18:	
Liberal Arts AA Social Science in Economics	17
Associate of Arts in Economics for Transfer	19
2016/17:	
Liberal Arts AA Social Science in Economics	18
Associate of Arts in Economics for Transfer	19
2015/16:	
Liberal Arts AA Social Science in Economics	19
Associate of Arts in Economics for Transfer	3 (first offered)
2014/15:	

Liberal Arts AA Social Science in Economics 27

TOTAL:

Liberal Arts AA Social Science in Economics 81

Associate of Arts in Economics for Transfer 41

(REQUIRED) If you have no (or very few) degrees/certificates, what other paths do you offer? (for example, GE, transfer)

NA

(REQUIRED) Have you developed any new courses in the past 4 years? Please give details.

NA

(REQUIRED) Have you made other curricular changes? (for example, renumbering, sequence change, co-reqs or pre-reqs)

No

### The Following Questions are for CTE Programs ONLY.

Enter "not applicable" if your program is not CTE.

(REQUIRED) List any licensure and/or accreditation associated with your program.

Enter "not applicable" if your program is not CTE.

No answer specified

(REQUIRED) Indicate the program TOP codes for your AA, AS, COA and COPs.

Please find TOP Code Link in the Directions.

Enter "not applicable" if your program is not CTE.

No answer specified

(REQUIRED) Indicate the SOC codes and title associated with your program's AA, AS, COA and COPs.

Please find SOC Code Link in the Directions.

Enter "not applicable" if your program is not CTE

No answer specified

(REQUIRED) Select the sector associated with your program.

Link to sectors list: In process of being developed

No answer specified

# Form: "2018/19 Comprehensive Program Review Instructional Outcomes and Assessment Section"

**Created with**: Taskstream **Participating Area**: Economics

#### (REQUIRED) Program name

**Economics** 

(REQUIRED) We are halfway through our 6-year cycle. Is your department/program on target to complete CLO assessment by Spring 2022? Please attach your schedule for CLO assessment, with explanations as needed.

Refer back to Direction #3 on how to attach documents.

All responses provided by X. Song, our outcomes coordinator.

Yes, we are on target to complete CLO assessment by Spring 2022. We have completed CLO for Econ 121. We plan to complete CLO for Econ 220 in Spring 2019 and Econ 120 in Spring 2020

#### (REQUIRED) Please list your PLOs.

PLO #1 : Critical Thinking: Students will demonstrate an ability to apply relevant economic theory to data and derive rational conclusions.

PLO #2 : Communications: Students will be able to articulate critical thinking outcomes in speech and written word.

PLO #3 : Global Awareness: Students will be able to identify and understand global economic issues.

# (REQUIRED) What progress have you made in your PLO assessment? Please attach your schedule, with explanations as needed.

Refer back to Direction #3 on how to attach documents.

We have applied Artificial Intelligent technology to assess our students' learning outcomes. Please see the attachment. We plan to incorporate AI into our new Canvas system when it is ready in Spring 2019.

## (REQUIRED) What have your completed assessments revealed about your courses or program?

Our completed assessments have revealed that our 3 Econ courses and entire Econ program are in excellent shape and we will continue to assess our students and program success by adopting cutting edge technology available.

## (REQUIRED) If issues or problems were identified, what is your plan for implementing change?

Neither issues nor problems have been identified thus far. Our department believes we are working in the right direction.

#### (REQUIRED) Based on your assessments, have you identified resource needs?

• Equipment

#### Please provide any other comments.

We need a laptop for each Econ contract faculty to incorporate the latest information technology into our ongoing CLO process.

# Form: "2018/19 Comprehensive Program Review Instructional Program Analysis Section"

**Created with**: Taskstream **Participating Area**: Economics

#### (REQUIRED) Program name

**Economics** 

(REQUIRED) Using the data dashboards, discuss how students are doing in your program. Please refer to indicators of success, retention, persistence, etc.

Information is not included for cohorts without a statistically significant number. The judgement I made related to this is that no cohort under 150 is included.

#### SUCCESS:

Success is continually higher in summer than spring, and in spring than fall.

We remain consistently higher than the college overall, with the most recent full year our success rate was 75% compared to overall college of 72%.

We continue to have lower success rates for African American/Black and Latinx Cohorts than other groups. Female success rates are higher than male by 3 percentage points (77% compared to 74%). First generation students likewise perform three percentage points lower than non-first generation.

Using data from 2013 onward, success rate is higher in Econ 121 than Econ 120. It is also higher for online than on campus.

#### **RETENTION:**

Retention is slightly higher than the college overall: 90% compared to 89%.

There is not a clear semester pattern in retention.

As with success, in the last school year the cohorts with the lowest retention were African American/Black and Latinx. However the range between ethnicities was smaller, and the lowest cohort (African American/Black) fell only 3 percentage points lower than the average (86%) while Latinx fell only one percent lower (86%). Female and male retention rates were the same (90%). Older students (above 30) had the lowest retention rates.

Success is highest in 4 week classes, followed by 8-week. It is lowest in traditional semester-length courses. (Note: of all the findings this is the one that catches this writer's attention most)

## (REQUIRED) How does your program help to prepare students for success beyond your classrooms?

This has not been discussed, however in our newest course (Econ 220), guest speakers are brought in regularly who represent careers students may be interested in. Also reference the section below on career exploration.

# (REQUIRED) Given your stated area(s) of focus in your program overview section, has your program introduced new or different actions that may have affected changes in these indicators? Please describe.

Work is being continually done to support sustainability efforts throughout campus, in support of the Environmental Economics course. Other courses with an environmental focus are being identified, collaboration is occuring (for example joint guest speakers are going to address both Environmental Economics and Urban Geography), and students are being encouraged to join and expand student groups.

Prof. Song is actively working to promote international awareness.

We are supporting efforts by co-workers in our department to encourage continuted discussion on how we, as a department, can continue building collaboration. The main way we are supporting it, at this time, is by noting it here in our program review because another department will be asking for funds. We encourage them to be allocated.

# (REQUIRED) Has your program introduced any new actions specifically focused on issues of equity? Please describe.

Our faculty has been exposed through guest speakers at school meetings as well as the overall focus of the last few years at Mesa. So this is always in our awareness as we teach and we would be willing to implement specific actions, but so far are not aware of any that have come forth from the college. It has been theoretical to date and we look forward to its progression.

## (REQUIRED) Describe the trends in enrollment for your program. What changes might you foresee in the next 2-3 years?

Our enrollment is stable and we do not foresee changes beyond the cyclical changes that occur with the economy.

# (REQUIRED) Are there any data sets that are not already provided in the dashboards that you could use to inform your program?

No, however there were too many clicks needed to do a thorough analysis. The .pdf tables we had in prior years gave us the opportunity to see everything as a glance, and excel (which I often requested) were even more useful. The dashboard is quite amazing - without it I would never have seen things like the semester-length comparisons - however please provide the date in tabular format also.

#### (REQUIRED) In what ways can the college support your program in our effort to encourage major and career exploration early on in a student's college experience?

This writer is a member of the Career Exploration Inquiry Group and I know that there is a lot in the works. Workshops on careers, guest speakers, etc. throughout college will be very helpful.

Another very helpful action would be encouraging students to take their generals in fields that are not their direct interest. This may seem counterintuitive, but for a student to be most successful beyond college they need to be exposed to all possibilities in college.

#### The Following Questions are for CTE Programs/Services ONLY.

Enter "not applicable" if your program/service is not CTE.

(REQUIRED) For CTE programs ONLY: Provide specific labor market information showing: 1) Number of jobs available or projected in San Diego County 2) Number of other institutions offering the program 3) How many Mesa students completed the program in the last three years 4) The pay rates for those in the industry (limit 500 characters) (P.N.2.A)

Enter "not applicable" if your program is not CTE.

No answer specified

#### (REQUIRED) For CTE Services ONLY: How are CTE students identified and tracked for service? (limit 500 characters) (P.N.2.B)

Enter "not applicable" if your service is not CTE.

No answer specified

#### (REQUIRED) For CTE programs/services ONLY: Upload the report from Launchboard that includes at least three (3) of the following Strong Workforce metrics for your BASELINE year.

Please use the Cal-PASS Plus Launchboard Link available in the Directions.

Refer back to Direction #3 to #6 on how to attach documents.

Strong Workforce Program Metrics

- a. Number of Enrollments
- b. Number of students Who Got a Degree or Certificate
- c. Number of Students Who Transferred
- d. Percentage of Students Employed in Two Quarters After Exit
- e. Percentage of Students Employed in Four Quarters After Exit
- f. Median Earnings in Dollars Two Quarters After Exit
- g. Percentage of Students Who Achieved a Job Closely Related to Field of Study
- h. Percentage Change in Earrings
- i. Percentage Who Attended a Living Wage.

Enter "not applicable" if your program/services is not CTE. *No answer specified* 

# (REQUIRED) For CTE programs/services ONLY Upload the report from the CCCO Perkins site for the College Aggregate Core Indicator Information by 6 digit TOP Code.

Please use the Core Indicator Reports Link available in the Directions.

Refer back to Direction #3 to #6 on how to attach documents.

Enter "not applicable" if your program/service is not CTE. *No answer specified* 



### Program Goals (REQUIRED)

2018 2019 Goals for Economics	
Goal	
Goal	Mapping
Proctoring Center	CA- Mesa College Strategic Directions

Support the creation of a proctoring center at Mesa College. This goal is originated with a different program; Economics is supporting the goal.

**and Goals:** Strategic Goal 1.1, Strategic Goal 1.2, Strategic Goal 1.3, Strategic Goal 1.4, Strategic Goal 1.6, Strategic Goal 2.1, Strategic Goal 4.1, Strategic Goal 6.1, Strategic Goal 6.2,

Institutional Learning Outcomes 2016/17: Information Literacy, Program Learning Outcomes for

Economics: PLO #1: Critical Thinking, PLO

#2: Communications

Increased access to online students.

All full time faculty teach the majority of their courses online. Up-to-date technology is needed to communicate with students most effectively. Currently the district has no program to provide laptops for this. We will continue to look for avenues to remedy the situation.

**CA- Mesa College Strategic Directions and Goals:** Strategic Goal 1.1, Strategic Goal 1.2, Strategic Goal 1.3, Strategic Goal 1.4, Strategic Goal 1.6, Strategic Goal 2.1, Strategic Goal 4.1, Strategic Goal 4.2, Strategic Goal 4.3, Strategic Goal 6.1, Strategic Goal 6.2,

**Institutional Learning Outcomes 2016/17:** Communication, Critical Thinking, Global Consciousness, Information Literacy, Professional & Ethical Behavior,

Program Learning Outcomes for Economics: PLO #1: Critical Thinking, PLO #2: Communications, PLO #3: Global Awareness

Stay up to date with latest theory and policy in Economics Attend the American Economic Association Conference (Econ 120 and 121 2 professors) and the Climate Leadership Conference (Econ 220 - 1 professor) CA- Mesa College Strategic Directions and Goals: Strategic Goal 1.1, Strategic Goal 1.2, Strategic Goal 1.3, Strategic Goal 1.6, Strategic Goal 2.1, Strategic Goal 3.2, Strategic Goal 4.1, Strategic Goal 5.1, Strategic Goal 5.2, Strategic Goal 6.1, Institutional Learning Outcomes 2016/17: Critical Thinking, Global Consciousness, Information Literacy

### Action Plans for Non CTE Programs (REQUIRED)

**Actions** 

2018 2019 Goals for Economics

Goal

**Goal: Proctoring Center** 

Support the creation of a proctoring center at Mesa College. This goal is originated with



#### a different program; Economics is supporting the goal.

#### Action: Collaborate with DSPS and other departments

Describe the actions needed to achieve this objective:

In an effort to increase student success and equity, we will collaborate with other instructional department and DSPS to support a campus wide proctoring center.

Who will be responsible for overseeing the completion of this objective:

Becca Arnold

Provide a timeline for

the actions:

This is a continual effort.

Describe the assessment plan you will use to know if the objective was achieved and effective:

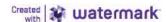
List resources needed achieve this objective and associated costs (Supplies, Equipment, Computer Equipment, Travel & Conference, Software, Facilities, Classified Staff, Faculty, Other):

If the proctoring center is developed and open at least some evenings and weekend days.

To achieve this specific objective nothing is needed. For the proctoring center a space, equipment, and personnel is needed. Details will be forthcoming from DSPS.

Goal: Increased access to online students.

All full time faculty teach the majority of their courses online. Up-to-date technology is needed to communicate with students most effectively. Currently the district has no



Economics

program to provide laptops for this. We will continue to look for avenues to remedy the situation.

▼ Action: Explore effective ways to get updated equipment.

Describe the actions needed to achieve this objective: Work with administration to change policy allowing laptops, rather than desktops, to be allowed.

Laptops made available to all fulltime faculty.

Who will be responsible for overseeing the

Becca Arnold

objective:

Provide a timeline for

completion of this

the actions:

Ongoing

Describe the

assessment plan you will use to know if the objective was achieved

and effective:

rces needed Costs of three laptops, not yet calculated as his objective costs continually change.

List resources needed achieve this objective and associated costs (Supplies, Equipment, Computer Equipment, Travel & Conference, Software, Facilities,

Classified Staff, Faculty,

Other):

Goal: Stay up to date with latest theory and policy in Economics

Attend the American Economic Association Conference (Econ 120 and 121 2 professors) and the Climate Leadership Conference (Econ 220 - 1 professor)

NOTE: This is not showing up under Action Plans, and the goal above which was changed was not updated. This closes before this can be worked out technically, and BARC appears down - so this is why this part is not complete. When it opens in January I will fix.

#### ▼ Action: Attend AEA

Describe the actions needed to achieve this objective: Faculty attend the American Economic
Association Conference in January 2020. This is
the premiere economic conference in the world,
with all the top name economists present and
presenting. Many of them have authored the
textbooks we use, and there are opportunities
to hear them speak on topics we teach, as well
as opportunities to network with other
professionals.

Who will be responsible for overseeing the completion of this objective:

The attending faculty (either Prof. Song, Prof. Abajian, or Prof. Arnold, and hopefully two of the above).

Provide a timeline for the actions:

Completed January 2020

Describe the assessment plan you will use to know if the objective was achieved

Registration verification will be provided.

and effective:

Other):

List resources needed achieve this objective and associated costs (Supplies, Equipment, Computer Equipment, Travel & Conference, Software, Facilities, Classified Staff, Faculty,

Travel and Conference funds are needed.

#### Action: Attend the Climate Leadership Conference

Describe the actions needed to achieve this objective:

Faculty member Becca Arnold attend the Climate Leadership Conference in March 2020. This conference is attended by leaders in academia, industry, government, ngo's and utilities for all over the world. It is the foremost conference related to climate change in the United States. It will provide updated information for the Economics of the Environment class that Becca teaches as part of the Sustainability degree.

Who will be responsible for overseeing the completion of this objective:

Becca Arnold

Provide a timeline for

the actions:

March 2020

Describe the assessment plan you will use to know if the objective was achieved

and effective:

List resources needed achieve this objective and associated costs (Supplies, Equipment, Computer Equipment, Travel & Conference, Software, Facilities, Classified Staff, Faculty, Other):

Registration verification will be used to validate attendance

Travel and Conference funds

- Project Plan for CTE Programs Only (REQUIRED)
- **♦ Closing the Loop (REQUIRED)**

Form: 2018/19 Comprehensive Program Review Instructional Closing the Loop (See appendix)



# Form: "2018/19 Comprehensive Program Review Instructional Closing the Loop"

**Created with :** Taskstream **Participating Area:** Economics

(REQUIRED) Program name

Program

(REQUIRED) Which one(s) of the following were received in past year?

• None

(REQUIRED) How have these resources benefited your program and your students?

na

## **Request Forms**

- **BARC & Facilities Requests**
- Classified Position Request
- Faculty Position Request

#### **Reviewers**

#### Liaison's Review

Form: Instructional Program Liaison's Review 2018/19 (Comprehensive)

#### Manager's Review

Form: Instructional Program Manager's Review 2018/19 (Comprehensive)



## **Appendix**

- A. 2018/19 Comprehensive Program Review Instructional Program Overview Section (Form)
- B. 2018/19 Comprehensive Program Review Instructional Curriculum Section (Form)
- C. 2018/19 Comprehensive Program Review Instructional Outcomes and Assessment Section (Form)
- D. Econ 121 Assessment Project Two Measurement.docx (Word Document (Open XML))
- E. Econ 121 CLOs.docx (Word Document (Open XML))
- F. 2018/19 Comprehensive Program Review Instructional Program Analysis Section (Form)
- G. 2018/19 Comprehensive Program Review Instructional Closing the Loop (Form)

### **Assessment Project Two: Online Virtual Classroom Experiment**

#### Measurement

This Online Virtual Classroom Experiment effectively assesses all the 3 course learning outcomes. Students demonstrate their deep understanding of private market outcomes, various market structures, as well as their critical thinking and problem-solving skills by participating in this interactive Online Virtual Classroom Experiment.

Assume that the following cost data are for a purely competitive producer:



Answer the questions in the first column in the table below for each of the prices listed at the top of each of the three columns, (a), (b), and (c).

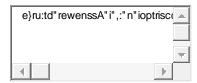
Instructions: Round your answers to 2 decimal places. Select "Not applicable" and enter "0" for output if the firm does not produce.

	(a)	(b)	(c)
	At a product price of \$56	At a product price of \$41	At a product price of
Will this firm produce in the short run?	(Click to select)	(Click to select)	(Click to select)
If it is preferable to produce, what will be the		(Click to select)	(Click to select)
profit-maximizing or loss-minimizing output?		output = units	output = uni
	per firm	per firm	per firm
What economic profit or loss will the firm	(Click to select)	(Click to select)	(Click to select)
realize per unit of output?		per unit = \$	= \$
			1

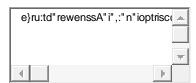
d. In the table below, complete the short-run supply schedule for the firm (columns 1 and 2) and indicate the profit or

loss incurred at each output (column 3).

Instructions: Enter your answers as whole numbers. If you are entering any negative numbers be sure to include a negative sign (-) in front of those numbers.



- e. Now assume that there are 1,500 identical firms in this competitive industry; that is, there are 1,500 firms, each of which has the cost data shown in the table. Complete the industry supply schedule (column 4 in the table above).
- f. Suppose the market demand data for the product are as follows:



What will be the equilibrium price? \$

What will be the equilibrium output for the industry?

For each firm? units

Instructions: Enter positive values for the reported profit or loss?

What will profit or loss be per unit? (Click to select) per unit = \$

Per firm? \$

Will this industry expand or contract in the long run? (Click to select)

#### **Econ 121 Course Learning Outcomes**

#### **Course Learning Outcomes:**

#### 1. Understanding Economic Thinking

Upon completion of this course, students will be able to use the framework of economic thinking to evaluate resource allocation decisions.

#### 2. Understanding private market outcomes

Upon completion of this course, students will be able to use the framework of supply and demand to graphically analyze market system outcomes.

#### 3. Understanding Market Structures

Upon completion of this course, students will be able to determine prices and output levels in various market structures.

#### Assessment Project One: Artificial Intelligent Interactive Game—LearnSmart

LearnSmart is an artificial intelligent online game that adapts to students' specific needs and provide them with customized learning content based on their strengths and weaknesses. During the gaming time, students alternate their roles, as a consumer, a producer (a perfect competitor, monopolist, and duopolist), and or a government regulator. They are provided with unlimited opportunities to conduct economic analysis (drawing graphs, shifting curves, filling in tables, and solving equations, etc.), solve practical economic problems, and make optimal economic decisions. They will be referred to certain area for further reading and learning based on immediate online feedback if they keep making similar mistakes during their decision-making process. Sometimes, they are moved down to some basic level problems with further reading recommendation and then moved up to intermediate level and eventually to advanced level. This State of Art technology effectively assesses all the 3 course learning outcomes and students can develop their critical and independent thinking, graphical, analytical, and problem-solving skills in real time.

The assigned "hours" control the coverage of items only and there is no time limit for each game. Students may logout and come back any time before the deadline. They won't lose scores for getting wrong answers as long as they continue to play it until they complete all the items with right answers. Students may earn full credit only if they complete all the items before submission deadline. Most students finish the game for each chapter by spending about 4 to 5 hours, with well-prepared students spending 2 hours or less, and underprepared students more hours. Students enjoy playing the game anytime and anywhere with unlimited attempts to self-assess their learning outcomes. LearnSmart game is a self-motivated, leaner-centered, and outcome-oriented, continuous learning process thorough semester.

## A sample of post-game statistical summary:

#### Demand, Supply, and Market Equilibrium (Extra Credit)

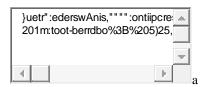
#### **Navigate Columns**

Statistics	
Count	24
Minimum Value	0
Maximum Value	10.00
Range	10.00
Average	4.30
Median	0.51
Standard Deviation	4.71
Variance	22.15
Grade Distribution	
Greater than 100	0
90 - 100	9
80 - 89	0
70 - 79	0
60 - 69	1
50 - 59	1
40 - 49	0
30 - 39	0
20 - 29	0
10 - 19	0
0 - 9	13
Less than 0	0

#### **Assessment Project Two: Online Virtual Classroom Experiment**

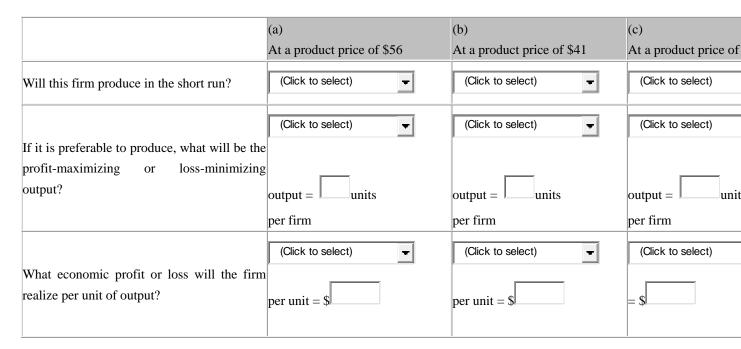
This Online Virtual Classroom Experiment effectively assesses all the 3 course learning outcomes. Students demonstrate their deep understanding of private market outcomes, various market structures, as well as their critical thinking and problem-solving skills by participating in this interactive Online Virtual Classroom Experiment.

Assume that the following cost data are for a purely competitive producer:



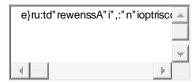
Answer the questions in the first column in the table below for each of the prices listed at the top of each of the three columns, (a), (b), and (c).

Instructions: Round your answers to 2 decimal places. Select "Not applicable" and enter "0" for output if the firm does not produce.

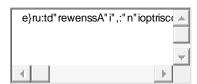


d. In the table below, complete the short-run supply schedule for the firm (columns 1 and 2) and indicate the profit or loss incurred at each output (column 3).

Instructions: Enter your answers as whole numbers. If you are entering any negative numbers be sure to include a negative sign (-) in front of those numbers.



- e. Now assume that there are 1,500 identical firms in this competitive industry; that is, there are 1,500 firms, each of which has the cost data shown in the table. Complete the industry supply schedule (column 4 in the table above).
- f. Suppose the market demand data for the product are as follows:



What will be the equilibrium price? \$

What will be the equilibrium output for the industry?

For each firm? units

Instructions: Enter positive values for the reported profit or loss?

What will profit or loss be per unit? (Click to select) per unit = \$

Per firm? \$

Will this industry expand or contract in the long run? (Click to select)

## **Project One summary statistics:**

Statistics	
Count	123
Minimum Value	0
Maximum Value	10.00
Range	10.00
Average	4.30
Median	0.51
Standard Deviation	4.71
Variance	22.15

## **Project Two summary statistics:**

Statistics	
Count	163
Minimum Value	0
Maximum Value	5.00
Range	5.00
Average	4.39
Median	4.94
Standard Deviation	1.19
Variance	1.41

90100	20
80 - 89	2
70 - 79	2

60 - 69	1
50 - 59	0
40 - 49	0
30 - 39	0
20 - 29	1
10 - 19	0
0 - 9	1

### **Some Item Analysis**

• Student progress and dynamics:

First attempt: 50.80% Last attempt: 86.62% Best Attempt: 90.24%

• At risk student report

#### total students 34

- at risk 4
- keep watch 7
- safe 23

## Remedy and Engagement

students	online engagement indicator	remediate
Hidden Names	1.3	send message to student
	3.5	send message to student

students	online engagement indicator	remediate
	1.0	send message to student
	1.7	send message to student
	4.4	send message to student
	6.1	send message to student
	6.7	send message to student
	6.7	send message to student
	4.9	send message to student
	5.2	send message to student
	4.3	send message to student
	7.9	
	9.8	
	8.1	
	8.3	
	8.2	
	8.2	
	7.4	
	7.2	
	7.3	
	8.7	
	7.9	

students	online engagement indicator	remediate
	9.7	
	10.0	
	9.8	
	7.8	
	9.4	
	7.3	
	9.3	
	7.9	
	7.9	
	8.0	
	7.0	
	9.3	

#### Hi Song,

I am not an Econ person but this looks really good to me. I think you are certainly going in the right direction. I always figure that we can make changes whenever as time progresses. This CLO process is fluid and I think we are probably expected to make changes as time goes on.

Tracy