



Smartscape 101 - Fall 2017 Summary of Attendance

The fall 2017 Smartscape course was held at the Maricopa County Cooperative Extension Office – Palo Verde room (4341 East Broadway Road, Phoenix, AZ 85040) from August 7 through August 30, 2017. The classes were held on Mondays and Wednesdays from 3:00-6:00 pm. The registration fee was \$95 per person. The course had 60 registrants (59 paid and one complimentary registration for City of Phoenix Water Conservation personnel). To date, 39 people have graduated. Of the 60 people enrolled, nine individuals passed the final test but still need to make up missed classes, ten individuals missed more than two classes or did not show up to class altogether, and three individuals did not pass the final test. Figure 1 below shows the course composition of student backgrounds for the fall 2017 Smartscape course.

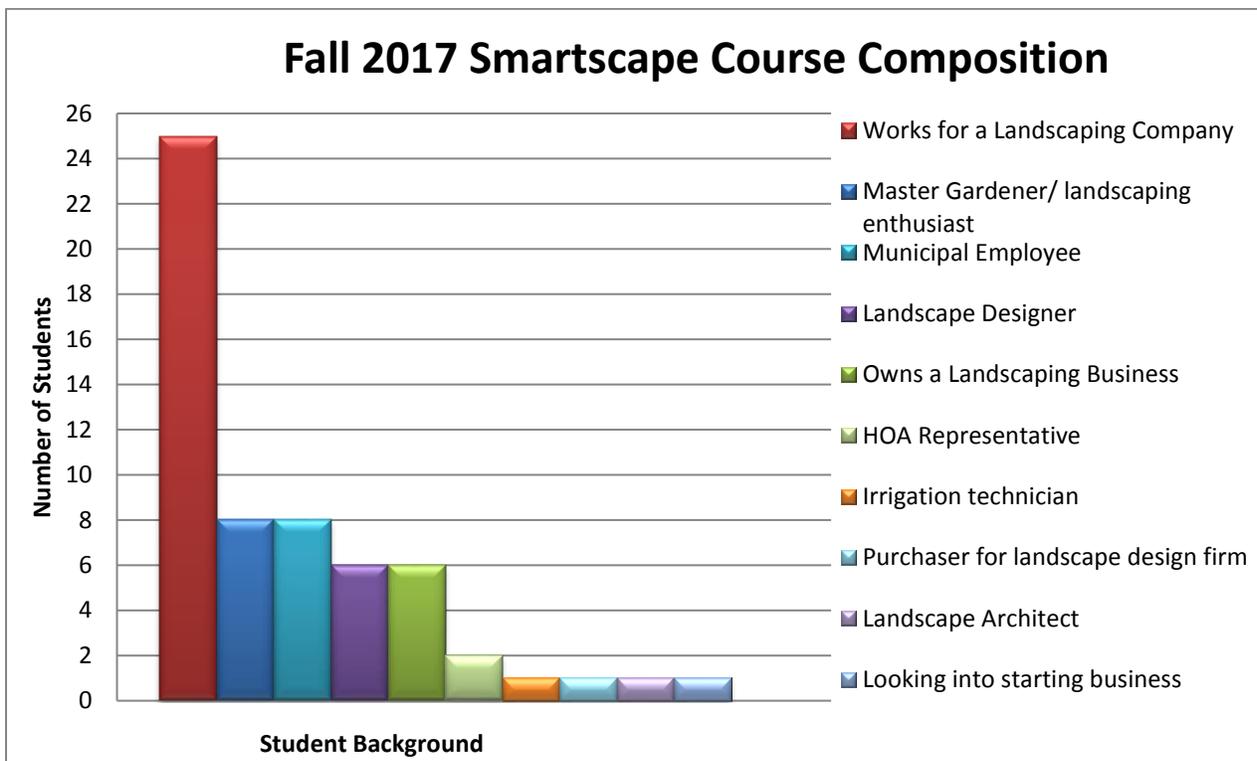


Figure 1: Fall 2017 Smartscape Course Composition of student backgrounds.

Registrants continue to have the opportunity to pay their \$95 Smartscape registration fee with a credit card using RegOnline.com. The mandatory service fee associated with RegOnline.com was raised \$0.34, from \$5.45 to \$5.79. However, registrants still have the option to pay with a check to avoid the fee.



Smartscape 101 - Fall 2017 Course Evaluations

The following evaluation scores are based on the Likert Scale, a measurement tool used to assess attitudes toward a topic by presenting a set of statements about the topic and asking respondents to indicate their level of agreement. The closer the result is to five, the more positive the feedback.

Table 1 gives a basic summary of scores for the individual classes for the fall session. The lowest score given to any individual class was a 4.54 and the highest was a 4.73. The average score given to all eight classes was 4.66. For full evaluation results from fall 2017, please see Appendix A.

<i>Course</i>	<i>Lowest</i>	<i>Highest</i>	<i>Average</i>
Fall 2017	4.54	4.73	4.66

Table 1: Class score summary for fall 2017 Smartscape session.

After each class, one of the statements participants were asked to evaluate was “After taking this class, my knowledge about this topic increased.” On average, 95% of students “Strongly Agreed” or “Agreed” that their knowledge increased for all eight classes with the lowest class score at 90% agreement and the highest class score at 98% agreement. Table 2 below displays the summary of this information for the individual class evaluations.

<i>Course</i>	<i>Lowest</i>	<i>Highest</i>	<i>Average</i>
Fall 2017	90%	98%	95%

Table 2: Average % of students who “Strongly Agreed” and “Agreed” that their knowledge increased.

In addition to quantitative questions, the course evaluations also ask qualitative questions. Below are a few of the comments students gave during the fall 2017 individual class evaluations.

Fall 2017

- “[Dr. Schuch] Made it easy to understand and relateable to everyday professional life.”
- “Thank you once again, great class. I will be incorporating this knowledge into the work I do.” (Landscape Design and Renovation)
- “I’m really learning a lot of the desert requirements for plants to thrive in this environment. Thank you once again.” (Plant Selection and Installation)
- “[Jeff Lee] Very informative, will take more classes with him.”
- “Everything was great, like all the classes, the hands on (the clock) was great to actually do it. Thanks!” (Landscape Water Management & Irrigation Controllers)
- “It was a very complete presentation, just needed more time on it. Great class! Thanks again!” (Desert Plant Maintenance)
- “I have truly learned and enjoyed this and all of the sessions. Thanks you all!”
- “Thanks you for so much good info. You are great at this!”
- “Very good explaining about irrigation controllers”



Smartscape 101 - Spring 2018 Course Information

The spring 2018 Smartscape 101 course starts in February. The classes take place on Tuesdays and Thursdays, February 6 through March 1 from 3:00 pm to 6:00 pm. The course is being held at the University of Arizona Maricopa County Cooperative Extension office - Palo Verde Room (4341 E. Broadway Road Phoenix, AZ 85040). Registration numbers are limited to 65 people.

Promotion

The Smartscape Program Coordinator continues to utilize the same promotional methods that were outlined in the 2017 annual report. Additional companies have been added to the mailing and email advertising list in order to reach a larger audience. Some rock yards and more wholesale nurseries have been added to the flyer drop-off list.

Curriculum Development Update

The compiled edits of the Smartscape Study Guide were completed by a professional editor, and the new edition was printed for use by Pima County and Maricopa County spring 2018 courses. Program coordinators are working to make the content of the class presentations more aligned.

Advanced Smartscape

The 2018 Advanced Smartscape: Irrigation course is scheduled for April 12th, 19th, and 26th, 2018 from 1:00 pm to 6:00 pm. The course is being held at the University of Arizona Maricopa County Cooperative Extension office - Palo Verde Room (4341 E. Broadway Road Phoenix, AZ 85040). Registration numbers will be limited to 55 people. Instructors will be working with the program coordinator to update and improve the course materials.

Spanish Smartscape 101

The Smartscape Program Coordinator is planning a Smartscape 101 course for Spanish speakers. Pima County Smartscape has offered their presentations and materials for use. Instructors have been contacted, with one of three potential presenters confirmed. The 2018 Spanish Smartscape 101 course is scheduled for Tuesdays and Thursdays, May 1 through 24, from 3:00 pm to 6:00 pm. The course is being held at the University of Arizona Maricopa County Cooperative Extension office - Palo Verde Room (4341 E. Broadway Road Phoenix, AZ 85040). Registration numbers are limited to 65 people.

Newsletter

The Smartscape Update

Bringing ideas, news and opportunities to the Smartscape community

The first newsletter was sent out through Constant Contact to 1267 email addresses in December, 2017. This monthly communication provides a means to stay in touch with past students (Smartscape 101 and Advanced Smartscape: Irrigation), program supporters and the local landscape industry.



APPENDIX A. CLASS EVALUATIONS

Dr. Ursula Schuch—Soils, Plants & Water (August 7, 2017)

<p>The presentation was easy to follow.</p>	<p>83% strongly agreed 15% agreed 2% neutral 0% disagreed 0% strongly disagreed</p>	<p>Students were asked, “Specifically as it relates to Soils, Plants & Water, I want to learn more about:”</p> <ul style="list-style-type: none"> • Trees to plant that provide much shade and use less water. • Watering amounts for different types of plants • Organic material and fertilizers • How each topic relate to each other • Region soils compared to other regions • Irrigation and fertilizers • Soil amendment. • Soil pH and amendments. • Soils and how to work with them • Soil contamination • How much water do we really need for plants • Soils and pH levels • Understanding water requirements for plants • Cuanta agua nesecita en verdad cada planta, arbol, y flores (how much water does each plant, tree and flower actually need) • Best soil to plant plants
<p>The notebook/course materials were useful and easy to follow.</p>	<p>89% strongly agreed 9% agreed 2% neutral 0% disagreed 0% strongly disagreed</p>	
<p>After taking this class, my knowledge about this topic increased.</p>	<p>78% strongly agreed 19% agreed 4% neutral 0% disagreed 0% strongly disagreed</p>	
<p>I would be interested in more classes on this topic.</p>	<p>63% strongly agreed 20% agreed 17% neutral 0% disagreed 0% strongly disagreed</p>	

Additional Student Comments:

- The whole class was inspirational
- (x3)Great speaker
- Everything was perfect
- (x3)Great lecture
- (x3)Very informative.
- Dr. Ursula made it very easy to follow and understand.
- Very knowledgeable and made the class very interactive.
- Made it easy to understand and relatable to everyday professional life.
- Presenter was very knowledgeable and knew the topic very well.
- Thank you for the presentation, it helped me quite a bit.
- Great job and great pace!
- Notebooks in color would be beneficial so we can see color changes in examples.
- I appreciate having a scientist who provides the facts rather than horticultural myths.
- Liked learning about soils, work on slowdown more of a breakdown
- Very easy to follow - great explanations
- (x2)Everything was great.
- Notebook pictures too small



Judy Mielke—Landscape Design & Renovation (August 9, 2017)

<p>The presentation was easy to follow.</p>	<p>85% strongly agreed 9% agreed 6% neutral 0% disagreed 0% strongly disagreed</p>	<p>Students were asked, “Specifically as it relates to Landscape Design and Renovation, I want to learn more about:”</p> <ul style="list-style-type: none"> • Hardscape • Design elements • Irrigation • Clients and landscape design • (x4) Design • More of the actual steps to how to design • Plant selection • Hardscaping, plant placement • Design technique • Type of plants that work well together • Permaculture • Best, hardiest plantings <p>Additional Student Comments:</p> <ul style="list-style-type: none"> • Great information • Opened my eyes to more ways to conserve water • Everything good • Great speaker • Lots of information but hard to follow concepts. Needed to be more defined during presentation • Thank you once again, great class. • Show some examples where we can see this design over Phoenix area. • I will be incorporating this knowledge into the work I do. • Just starting to get involved in condo community issues where 22 live oaks are proposed for removal
<p>The notebook/course materials were useful and easy to follow.</p>	<p>77% strongly agreed 19% agreed 4% neutral 0% disagreed 0% strongly disagreed</p>	
<p>After taking this class, my knowledge about this topic increased.</p>	<p>75% strongly agreed 17% agreed 8% neutral 0% disagreed 0% strongly disagreed</p>	
<p>I would be interested in more classes on this topic.</p>	<p>70% strongly agreed 17% agreed 13% neutral 0% disagreed 0% strongly disagreed</p>	
<p>How often do you design landscapes?</p>	<p>24% All of the Time 6% Often 37% Sometimes 12% Rarely 22% Never</p>	
<p>How often do you convert high water use landscapes or turf to low water use landscapes or xeriscape?</p>	<p>14% All of the Time 4% Often 47% Sometimes 24% Rarely 12% Never</p>	



Kirti Mathura—Plant Selection & Installation (August 14, 2017)

The presentation was easy to follow.	89% strongly agreed 6% agreed 6% neutral 0% disagreed 0% strongly disagreed
The notebook/course materials were useful and easy to follow.	87% strongly agreed 9% agreed 4% neutral 0% disagreed 0% strongly disagreed
After taking this class, my knowledge about this topic increased.	75% strongly agreed 15% agreed 9% neutral 0% disagreed 0% strongly disagreed
I would be interested in more classes on this topic.	62% strongly agreed 21% agreed 15% neutral 0% disagreed 2% strongly disagreed
How often do your clients request high water use plants?	11% All of the time 20% Often 42% Sometimes 16% Rarely 11% Never
After taking this class, how likely are you to suggest desert adapted plants to your clients?	42% All of the time 42% Often 15% Sometimes 0% Rarely 2% Never

Students were asked, “Specifically as it relates to Plant Selection & Installation, I want to learn more about:”

- Best plants that thrive in this climate.
- Staking trees
- Installation
- You covered everything.
- Plant selection
- Long term tree care
- Roots and moving/implanting
- Staking, planting
- Large cacti, succulents
- Plants combinations (texture, structure)
- Plant varieties
- Plants in specific locations

Additional Student Comments:

- Very well done. Enjoyed the class.
- Great instructor!
- Everything
- I'm really learning a lot of the desert requirements for plants to thrive in this environment. Thank you once again.
- Very fun material with the short presentation.
- I enjoyed the section on plant selection at the nursery.
- It was great. Thank you.
- Gracias.
- Great info



Jeff Lee—Drip Irrigation Design & Installation (August 16, 2017)

The presentation was easy to follow.	78% strongly agreed
	16% agreed
	4% neutral
	2% disagreed
	0% strongly disagreed
The notebook/course materials were useful and easy to follow.	82% strongly agreed
	14% agreed
	2% neutral
	2% disagreed
	0% strongly disagreed
After taking this class, my knowledge about this topic increased.	80% strongly agreed
	16% agreed
	4% neutral
	0% disagreed
	0% strongly disagreed
I would be interested in more classes on this topic.	80% strongly agreed
	12% agreed
	6% neutral
	0% disagreed
	2% strongly disagreed
After taking this class, my confidence in installing drip irrigation has increased.	63% strongly agreed
	29% agreed
	6% neutral
	0% disagreed
	2% strongly disagreed

Students were asked, “Specifically as it relates to Drip Irrigation Design & Installation, I want to learn more about:”

- Water flow
- (x3) Backflow prevention
- How to measure water by emitter
- Everything was covered.
- Backflow and how to install it.
- Hands on
- Basics
- Installation
- Troubleshooting
- Making a timer easier to figure out.
- Specifically how to water new/old trees
- It was great!!!
- Teaching clients about irrigation systems

Additional Student Comments:

- Thank you - Great class!
- Very informative.
- My knowledge level made it hard to follow the instructor.
- Entertaining
- Awesome class.
- Well done
- I am not a landscaper so I knew nothing about this beforehand!
- Time for 1st exposure. He was very knowledgeable.
- Difficult concept. Not too interested.
- Great speaker!
- Didn't know much about irrigation installation, found informative
- Very informative, will take more classes with him.
- The humor.



Rick Templeton—Landscape Water Management & Irrigation Controllers (August 21, 2017)

<p>The presentation was easy to follow.</p>	<p>65% strongly agreed 27% agreed 8% neutral 0% disagreed 0% strongly disagreed</p>	<p>Students were asked, “Specifically as it relates to Landscape Water Management & Irrigation Controllers, I want to learn more about:”</p> <ul style="list-style-type: none"> • Irrigation • I learned what I wanted to know • Design • Troubleshooting irrigation controller • More hands on training • Loved the hands on • (x2) Smart Controllers • Smart Controllers - client benefits • (x4) Controllers/clocks • Water management <p>Additional Student Comments:</p> <ul style="list-style-type: none"> • Nice • Everything was perfect • Very good class • Very good explaining about irrigation controllers • Everything was great, like all the classes, the hands on (the clock) was great to actually do it. Thanks!
<p>The notebook/course materials were useful and easy to follow.</p>	<p>63% strongly agreed 33% agreed 4% neutral 0% disagreed 0% strongly disagreed</p>	
<p>After taking this class, my knowledge about this topic increased.</p>	<p>69% strongly agreed 27% agreed 4% neutral 0% disagreed 0% strongly disagreed</p>	
<p>I would be interested in more classes on this topic.</p>	<p>54% strongly agreed 31% agreed 10% neutral 4% disagreed 0% strongly disagreed</p>	
<p>After taking this class, my knowledge of smart controllers increased.</p>	<p>71% strongly agreed 23% agreed 6% neutral 0% disagreed 0% strongly disagreed</p>	
<p>How often do you adjust watering schedules?</p>	<p>23% All of the time 30% Often 25% Sometimes 14% Rarely 9% Never</p>	
<p>After taking this class, how likely are you to adjust your client’s seasonal watering schedules?</p>	<p>48% Very likely 29% Likely 21% No change 0% Unlikely 2% Very unlikely</p>	



Steve Priebe—Maintaining Desert Adapted Plants (August 23, 2017)

<p>The presentation was easy to follow.</p>	<p>81% strongly agreed 13% agreed 6% neutral 0% disagreed 0% strongly disagreed</p>	<p>Students were asked, “Specifically as it relates to Maintaining Desert Adapted Plants, I want to learn more about:”</p>
<p>The notebook/course materials were useful and easy to follow.</p>	<p>77% strongly agreed 21% agreed 2% neutral 0% disagreed 0% strongly disagreed</p>	<ul style="list-style-type: none"> • What are the top 5 trees and top 5 shrubs that are most likely to thrive in Phoenix. • Tree trimming • Roots • Maintaining them / client advice. • Species, times, diseases, pests • Root pruning • Plant care • Native varieties. Indigenous • Tree growth and arbor care
<p>After taking this class, my knowledge about this topic increased.</p>	<p>77% strongly agreed 21% agreed 2% neutral 0% disagreed 0% strongly disagreed</p>	<p>Additional Student Comments:</p>
<p>I would be interested in more classes on this topic.</p>	<p>65% strongly agreed 21% agreed 13% neutral 0% disagreed 0% strongly disagreed</p>	<ul style="list-style-type: none"> • Very good class. • Nice • Much was repetitive. Still interesting. • More information on restorative pruning and pruning times of the year for desert plants.
<p>How often do you prune landscapes?</p>	<p>25% All of the time 19% Often 33% Sometimes 8% Rarely 15% Never</p>	<ul style="list-style-type: none"> • Infomative. • Best teacher so far! • Soil • I thought the proper technique for pruning trees was very useful. When there are charts on the slides, it would be useful to have them larger (for example spiral of death) • Lively. • The whole demonstration • It was a very complete presentation, just needed more time on it. Great class! Thanks again! • Best class so far! Great info! Awesome! Thanks • Really enjoyed the class



Bill Haldeman—Solutions to Plant Problems (August 28, 2017)

The presentation was easy to follow.	64% strongly agreed
	22% agreed
	13% neutral
	0% disagreed
	0% strongly disagreed
The notebook/course materials were useful and easy to follow.	69% strongly agreed
	24% agreed
	7% neutral
	0% disagreed
	0% strongly disagreed
After taking this class, my knowledge about this topic increased.	67% strongly agreed
	27% agreed
	7% neutral
	0% disagreed
	0% strongly disagreed
I would be interested in more classes on this topic.	59% strongly agreed
	30% agreed
	11% neutral
	0% disagreed
	0% strongly disagreed

Students were asked, “Specifically as it relates to Solutions to Plant Problems, I want to learn more about:”

- Diagnosis and solutions
- This class was very important, all of it.
- Specific plant fungus and insect problems.
- I would like to hear more about plant issues (with examples) and ways to remedy the issues.
- How to avoid plant dying from bad soil or areas
- More classes on plant id, disease and treatments
- How to offer solutions through landscape techs to clients
- In depth about how insects can cause disease in plants.
- Solutions
- Detecting plant problems
- The disease. How to clean your tools.
- Plant problem

Additional Student Comments:

- I have truly learned and enjoyed this and all of the sessions. Thanks you all!
- It was great, thank you Bill.
- Very good explanation.
- No bs and easy to follow.
- Would like to see a lot more examples (He had a lot but there are so many problems)
- Very helpful
- Very good presentation



Kirti Mathura—Desert Adapted Plants (August 30, 2017)

The presentation was easy to follow.	76% strongly agreed
	18% agreed
	4% neutral
	0% disagreed
	2% strongly disagreed
The notebook/course materials were useful and easy to follow.	76% strongly agreed
	20% agreed
	2% neutral
	0% disagreed
	2% strongly disagreed
After taking this class, my knowledge about this topic increased.	69% strongly agreed
	27% agreed
	2% neutral
	0% disagreed
	2% strongly disagreed
I would be interested in more classes on this topic.	67% strongly agreed
	23% agreed
	8% neutral
	0% disagreed
	2% strongly disagreed

Students were asked, “Specifically as it relates to Desert Adapted Plants, I want to learn more about:”

- (x3) Desert adapted plants
- What to plant for clients by region.
- Plant combinations, design
- What needs shade or more sunlight.
- Plant species

Additional Student Comments:

- Liked the color, wish all were color
- Good class. A bit on the long side
- Great detail on unique plant choices.
- Thanks you for so much good info. You are great at this!
- Great course
- Thank you another slam-dunk! Wonderful program here, Thank you one and all.
- Liked errthang!
- Kirti is delightfully passionate!
-



Overall Course Evaluation (August 30, 2017)

My expectations for this course were met.	64%	strongly agreed
	30%	agreed
	6%	neutral
	0%	disagreed
	0%	strongly disagreed
After taking Smartscape, my knowledge about proper care of water-efficient landscapes increased.	70%	strongly agreed
	30%	agreed
	0%	neutral
	0%	disagreed
	0%	strongly disagreed
I plan on using my Smartscape Certification to promote business.	63%	strongly agreed
	16%	agreed
	14%	neutral
	6%	disagreed
	0%	strongly disagreed
Before taking Smartscape, my level of knowledge about low-water use landscapes was:	13%	very high
	21%	high
	40%	medium
	17%	low
	10%	very low
After taking Smartscape, my level of knowledge about low-water use landscapes is:	20%	very high
	52%	high
	26%	medium
	0%	low
	0%	very low

Additional Student Comments:

- Everything that was talked about was well said and taught.
- Great
- I liked that there were a broad number of topics & professionals to discuss/lecture
- Some topics were too elementary. Assume people have more knowledge going in.
- Great class, ran great, more hands on
- Liked that the course was aimed at professional landscapers
- It was very informative and interesting! Maybe we could have smaller breaks instead of the big one.
- It was great thank you Kirti! When I came to the Arizona from Czech Republic 4 months ago, it was hard for me, and everywhere was just oleander and turf, I started to ask where is native plants, now I understand problem is in landscape companies, thank you for Smartscape!!
- I just moved here from Pittsburgh and this was a good s.w. landscape immersion class. It's completely different.
- Courses and materials were easy to follow. I'm sure in different courses more on hand activities are offered - i.e. irrigation - install of different parts.
- I'm retired and moved to AZ 2 years ago. This class was extremely helpful for me. I was just voted as HOA Board member.
- Easy to follow, and very informational.
- Beautifully done. Thank you for the increased education. I really appreciate it!
- Each and every class was great, Thanks you all for your time spent enabling me to perform at a higher lever of performance for the customer as well as the environment.



I am taking Smartscape because (please check all that apply):	43%	My employer sent me
	6%	Customer demand for water efficient landscapes
	30%	To receive a certificate
	13%	Continuing Education Units (ISA CEUs)
	6%	Continuing Education Units (AzASLA CEUs)
	67%	Professional interest
How did you hear about Smartscape?	56%	Personal interest
	59%	Employer
	6%	Flyer*
	13%	Email
	13%	I heard from a friend
I know people who would take Smartscape if it were offered in Spanish:	19%	Other**
	57%	TRUE
Please mark the box that applies to you (mark all that apply):	43%	FALSE
	13%	I am a Municipal employee (parks & rec, water conservation...)
	24%	I own a landscaping (or related) business
	17%	I am a landscape designer
	48%	I work for a landscaping company
	15%	I am a Master Gardener or a gardening/landscaping enthusiast
	2%	Nursery professional
	6%	HOA representative
	13%	Other***
Please mark the box with the months that would be most convenient for your work schedule to take a class like Smartscape (mark all that apply):	55%	January/February
	59%	February/March
	47%	June/July
	31%	August/September
	33%	September/October
	37%	November/December
	0%	Other
Which days of the week would be most convenient for you to attend classes? (mark all that apply):	63%	Monday
	45%	Tuesday
	59%	Wednesday
	49%	Thursday
	31%	Friday
	27%	Saturday
	14%	Sunday

* Flyer Locations: Harper’s Nursery; work.

** Tweet from City of Tempe; Advanced Irrigation class; (x2) Master Gardener; Google search for local programs.

*** Irrigation Tech; purchaser at a landscape design firm; Looking into starting business; Landscape architect.



How likely are you to implement the following practices as a result of taking the Smartscape course?

Educating clients about the irrigation controller:	54%	strongly agreed
	30%	agreed
	12%	neutral
	2%	disagreed
	2%	strongly disagreed
Installing desert-adapted plants in place of higher water use plants:	67%	strongly agreed
	16%	agreed
	12%	neutral
	0%	disagreed
	4%	strongly disagreed
Pruning plants appropriately (stop shearing):	59%	strongly agreed
	24%	agreed
	12%	neutral
	0%	disagreed
	4%	strongly disagreed
Zoning valves based on plant types (trees, shrubs, and groundcover):	61%	strongly agreed
	22%	agreed
	12%	neutral
	0%	disagreed
	4%	strongly disagreed
Adjusting irrigation schedules seasonally or monthly:	65%	strongly agreed
	24%	agreed
	6%	neutral
	2%	disagreed
	2%	strongly disagreed
Install smart controllers:	55%	strongly agreed
	27%	agreed
	12%	neutral
	0%	disagreed
	6%	strongly disagreed