



**Submissions close
December 15, 2014**

1
00:00:05,910 --> 00:00:03,510
there's a cool new 3d printer on board

2
00:00:08,549 --> 00:00:05,920
the international space station and

3
00:00:11,190 --> 00:00:08,559
students here on the ground are able to

4
00:00:13,749 --> 00:00:11,200
get involved with exactly how it's used

5
00:00:15,350 --> 00:00:13,759
we've got at the nasa payload operations

6
00:00:16,870 --> 00:00:15,360
integration center at marshall space

7
00:00:19,029 --> 00:00:16,880
flight center

8
00:00:20,230 --> 00:00:19,039
bill hubsher on hand to tell us more

9
00:00:22,470 --> 00:00:20,240
bill

10
00:00:24,870 --> 00:00:22,480
thanks very much brandi as astronauts

11
00:00:26,870 --> 00:00:24,880
travel further into space the ability to

12
00:00:29,750 --> 00:00:26,880
3d print tools and equipment that they

13
00:00:31,589 --> 00:00:29,760

need right then is absolutely essential

14

00:00:33,510 --> 00:00:31,599

while students with the future engineers

15

00:00:35,430 --> 00:00:33,520

program are being challenged to decide

16

00:00:37,190 --> 00:00:35,440

what they would print in space our

17

00:00:40,630 --> 00:00:37,200

laurie meigs caught up with deanne bell

18

00:00:44,470 --> 00:00:42,630

future engineers is an online platform

19

00:00:47,110 --> 00:00:44,480

it's a website futureengineers.org and

20

00:00:48,630 --> 00:00:47,120

we're hosting the first ever 3d printing

21

00:00:51,670 --> 00:00:48,640

and space challenge

22

00:00:53,670 --> 00:00:51,680

a partnership between the american

23

00:00:56,150 --> 00:00:53,680

society mechanical engineers foundation

24

00:00:58,549 --> 00:00:56,160

and nasa and we're challenging k-12

25

00:01:00,150 --> 00:00:58,559

students in the u.s to design 3d models

26
00:01:01,910 --> 00:01:00,160
for space and the winning student will

27
00:01:03,990 --> 00:01:01,920
have their design 3d printed on the

28
00:01:05,509 --> 00:01:04,000
space station and they'll also get a

29
00:01:07,750 --> 00:01:05,519
trip to huntsville where they can see it

30
00:01:09,429 --> 00:01:07,760
printed live at payload operations

31
00:01:11,190 --> 00:01:09,439
center for folks who don't know what a

32
00:01:14,230 --> 00:01:11,200
3d printer is what are we talking about

33
00:01:16,390 --> 00:01:14,240
here so 3d printing technology is

34
00:01:18,149 --> 00:01:16,400
becoming all the buzz and pop culture

35
00:01:20,630 --> 00:01:18,159
for engineers it's been around for quite

36
00:01:22,630 --> 00:01:20,640
some time but the basic 3d printers that

37
00:01:24,870 --> 00:01:22,640
you see in consumer markets it's almost

38
00:01:27,270 --> 00:01:24,880

like a glue gun that lays down plastic

39

00:01:28,870 --> 00:01:27,280

layer by layer by layer and they're part

40

00:01:31,350 --> 00:01:28,880

they're starting to pop up in classrooms

41

00:01:33,030 --> 00:01:31,360

and in libraries and maker spaces and so

42

00:01:35,030 --> 00:01:33,040

we want to take this the excitement of

43

00:01:36,390 --> 00:01:35,040

3d printing in space and bring it into

44

00:01:38,710 --> 00:01:36,400

the education community and give

45

00:01:40,630 --> 00:01:38,720

students a challenge that challenges

46

00:01:41,830 --> 00:01:40,640

them to solve real world problems you

47

00:01:44,149 --> 00:01:41,840

know we're not going to print toys in

48

00:01:47,030 --> 00:01:44,159

space we're going to actually encourage

49

00:01:48,710 --> 00:01:47,040

them to to be the future workforce to be

50

00:01:50,950 --> 00:01:48,720

those that are designing models that can

51
00:01:53,190 --> 00:01:50,960
actually be used um as different

52
00:01:54,950 --> 00:01:53,200
implements up in space how can students

53
00:01:57,270 --> 00:01:54,960
get involved right

54
00:01:59,910 --> 00:01:57,280
so our first challenge launches soon and

55
00:02:02,149 --> 00:01:59,920
uh you can go to futureengineers.org

56
00:02:03,670 --> 00:02:02,159
and you can sign in you sign in for your

57
00:02:05,910 --> 00:02:03,680
age group we have two age groups we have

58
00:02:07,190 --> 00:02:05,920
13 and above and below 13 and there's

59
00:02:09,510 --> 00:02:07,200
different prizes for the different age

60
00:02:11,670 --> 00:02:09,520
groups and on the site there's all kinds

61
00:02:13,510 --> 00:02:11,680
of awesome science lessons and media

62
00:02:15,830 --> 00:02:13,520
content and and information to help you

63
00:02:17,670 --> 00:02:15,840

get started we realize making a 3d model

64

00:02:19,750 --> 00:02:17,680

isn't necessarily something you just do

65

00:02:21,990 --> 00:02:19,760

immediately but we're here to help you

66

00:02:23,910 --> 00:02:22,000

out and and to to get students all up to

67

00:02:25,589 --> 00:02:23,920

speed on how to take their ideas and

68

00:02:28,470 --> 00:02:25,599

make it into a 3d printed reality in

69

00:02:30,869 --> 00:02:28,480

their hands how did this idea come about

70

00:02:32,790 --> 00:02:30,879

so this idea came about uh it's it's a

71

00:02:34,470 --> 00:02:32,800

bit of a brain child between myself and

72

00:02:37,110 --> 00:02:34,480

nikki werkheiser who's the 3d print

73

00:02:39,110 --> 00:02:37,120

program manager in huntsville

74

00:02:41,350 --> 00:02:39,120

we both are really passionate about

75

00:02:43,509 --> 00:02:41,360

extending what nasa research what what

76

00:02:45,509 --> 00:02:43,519

research is being done at nasa to the

77

00:02:47,830 --> 00:02:45,519

general population and to the future

78

00:02:50,710 --> 00:02:47,840

workforce you know when you look at the

79

00:02:52,550 --> 00:02:50,720

3d printing and space program the zero g

80

00:02:53,830 --> 00:02:52,560

technology demonstration that's going up

81

00:02:56,790 --> 00:02:53,840

it's about the hardware it's about

82

00:02:58,630 --> 00:02:56,800

proving the capabilities but this is has

83

00:03:00,309 --> 00:02:58,640

a slightly different mission because

84

00:03:02,070 --> 00:03:00,319

future engineers is about empowering the

85

00:03:04,149 --> 00:03:02,080

future workforce that's going to use

86

00:03:06,149 --> 00:03:04,159

that 3d printer and whether it's on the

87

00:03:07,990 --> 00:03:06,159

space station or our future astronauts

88

00:03:09,910 --> 00:03:08,000

that go to mars they're going to have to

89

00:03:12,149 --> 00:03:09,920

be able to manufacture in space to solve

90

00:03:15,350 --> 00:03:12,159

problems and to innovate on the spot so

91

00:03:17,270 --> 00:03:15,360

is this for students teachers or both

92

00:03:19,270 --> 00:03:17,280

so the first future engineers challenge

93

00:03:21,270 --> 00:03:19,280

is it's for individuals so individuals

94

00:03:22,550 --> 00:03:21,280

can go online to the site they can

95

00:03:24,070 --> 00:03:22,560

register

96

00:03:25,509 --> 00:03:24,080

you know if they're below a certain age

97

00:03:27,110 --> 00:03:25,519

we automate that to the parents so

98

00:03:29,190 --> 00:03:27,120

everyone knows that they're involved in

99

00:03:31,270 --> 00:03:29,200

participating but it's really aimed at

100

00:03:33,750 --> 00:03:31,280

the greater education community as a

101
00:03:35,430 --> 00:03:33,760
whole we encourage teachers to bring

102
00:03:37,110 --> 00:03:35,440
these challenges into the classrooms we

103
00:03:39,110 --> 00:03:37,120
encourage after-school programs to bring

104
00:03:41,350 --> 00:03:39,120
these challenges into their after-school

105
00:03:44,550 --> 00:03:41,360
computer labs and their stem and their

106
00:03:47,350 --> 00:03:44,560
steam resource labs so it's really aimed

107
00:03:48,869 --> 00:03:47,360
at a broader goal but individually each

108
00:03:51,750 --> 00:03:48,879
student submits their design that they

109
00:03:53,190 --> 00:03:51,760
make themselves all on their own and the

110
00:03:54,949 --> 00:03:53,200
winning one gets printed on the space

111
00:03:57,350 --> 00:03:54,959
station

112
00:03:58,630 --> 00:03:57,360
as deanne mentioned the winners of this

113
00:04:00,070 --> 00:03:58,640

challenge will get a chance to visit us

114

00:04:01,670 --> 00:04:00,080

here at the marshall space flight center

115

00:04:03,750 --> 00:04:01,680

and tour the payload operations

116

00:04:05,509 --> 00:04:03,760

integration center so again if someone

117

00:04:06,789 --> 00:04:05,519

you know or yourself would like to get

118

00:04:09,070 --> 00:04:06,799

involved in the challenge you have until

119

00:04:11,589 --> 00:04:09,080

december the 15th to go to

120

00:04:13,030 --> 00:04:11,599

futureengineers.org and enter that's it

121

00:04:14,869 --> 00:04:13,040

for us at the payload operations