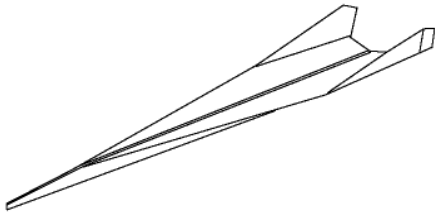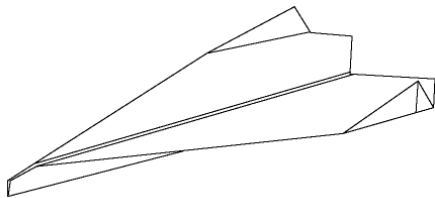# Paper Airplanes

To make a successful paper airplane, the forces of gravity, lift, drag and thrust must be balanced properly. How many types of planes can you make?
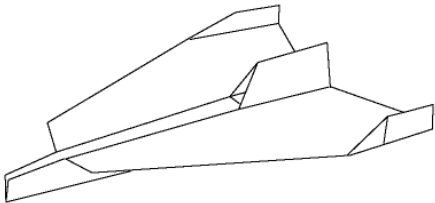
Bullet Plane
This plane flies as fast and as far as you can throw it, although it can also spin out of control if thrown too hard.
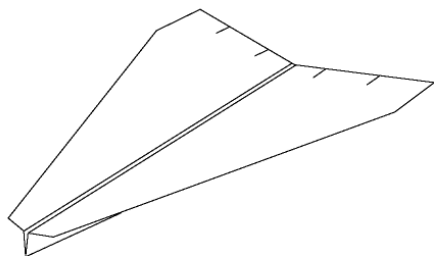Accurate firm creases are important.

Delta Plane
This plane flies straight and steady.
It is easy to fold and a great all around flier.

Intercepter Plane
This plane has a central vertical stabilizer on the black that helps produce excellent straight flights. Make sure to complete the final step of the instructions for good performance.
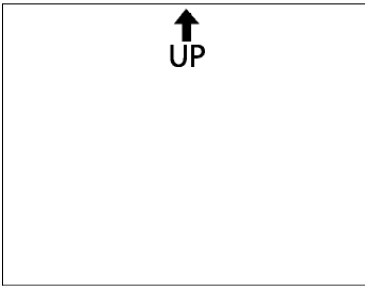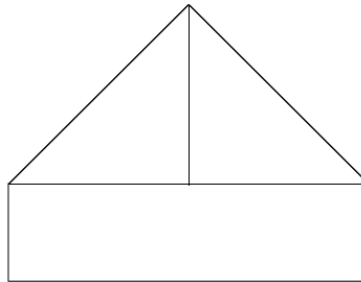
Arrow Plane
This plane is easy to fold and flies straight and smooth for long level flights.
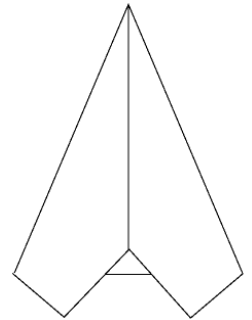
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Bullet Plane

Orient the template so that the "UP" arrow is at the top of the page. Then flip the paper over so that none of the fold lines are showing.
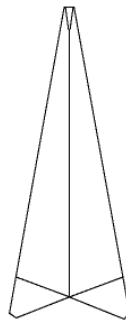
Fold the top left corner down toward you until fold line 1 becomes visible. Crease along the dotted line and repeat with the top right corner.

Fold the left side over again and crease along fold line 2. Repeat with the right side.
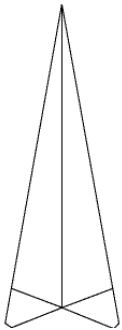
Fold the left side over once again and crease along fold line 3. Repeat with the right side. Make sure that you are making firm, crisp creases along each fold line.

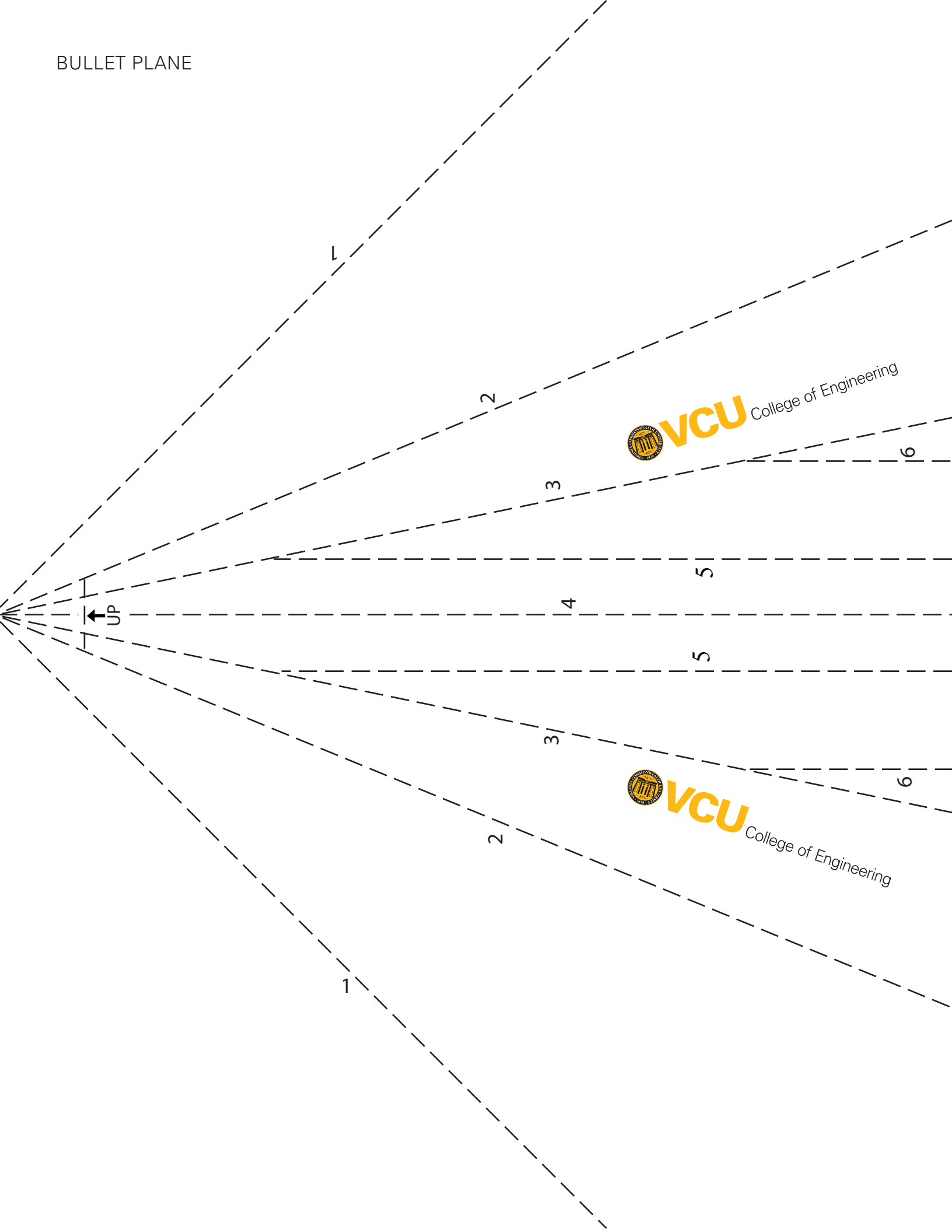Fold the tip of the nose down toward you along the fold line.

Fold the right half of the plane over onto the left half along fold line 4 so that the outside edges of the wings line up. Again, make a firm crease along this fold.
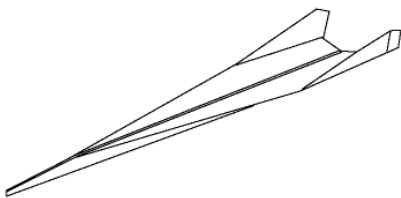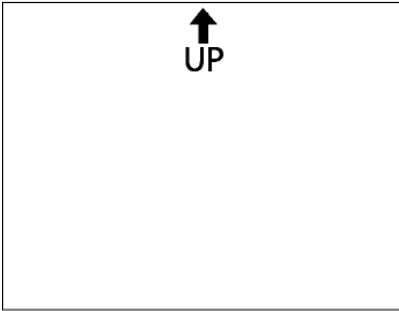
Fold the wings down along fold lines 5 and the winglets up along fold lines 6. Tilt the wings up slightly. The wings will have a slight "V" shape when viewed from the front. You are ready to fly!
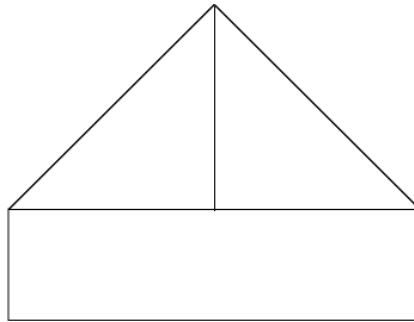
BULLET PLANE

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6

1

2

3

UP

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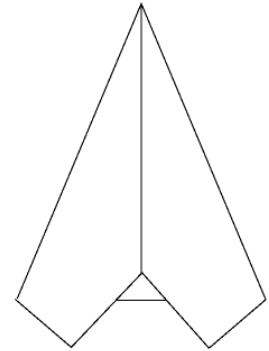
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Delta Plane

Orient the template so that the "UP" arrow is at the top of the page. Then flip the paper over so that none of the fold lines are showing.

Fold the top left corner down toward you until fold line 1 becomes visible. Crease along the dotted line and repeat with the top right corner.
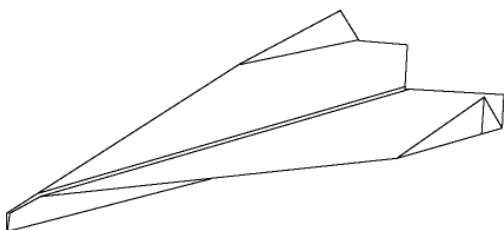
Fold the left side over again and crease along fold line 2. Repeat with the right side.
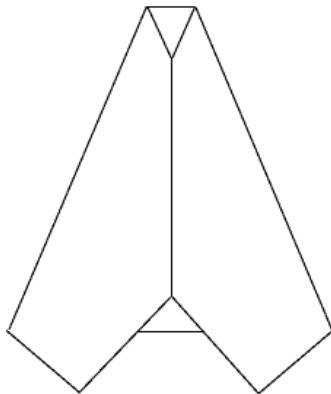
Fold the nose down and toward you along fold line 3.

Fold the right half of the plane over the left half along fold line 4 so that the outside edges of the wings line up.

Fold the wings down along fold lines 5 and the winglets up along fold lines 6. Add wing dihedral by tilting the wings up slightly away from the fuselage. The wings will have a slight "V" shape when viewed from the front. You are ready to fly!

DELTA PLANE

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UP

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2

1
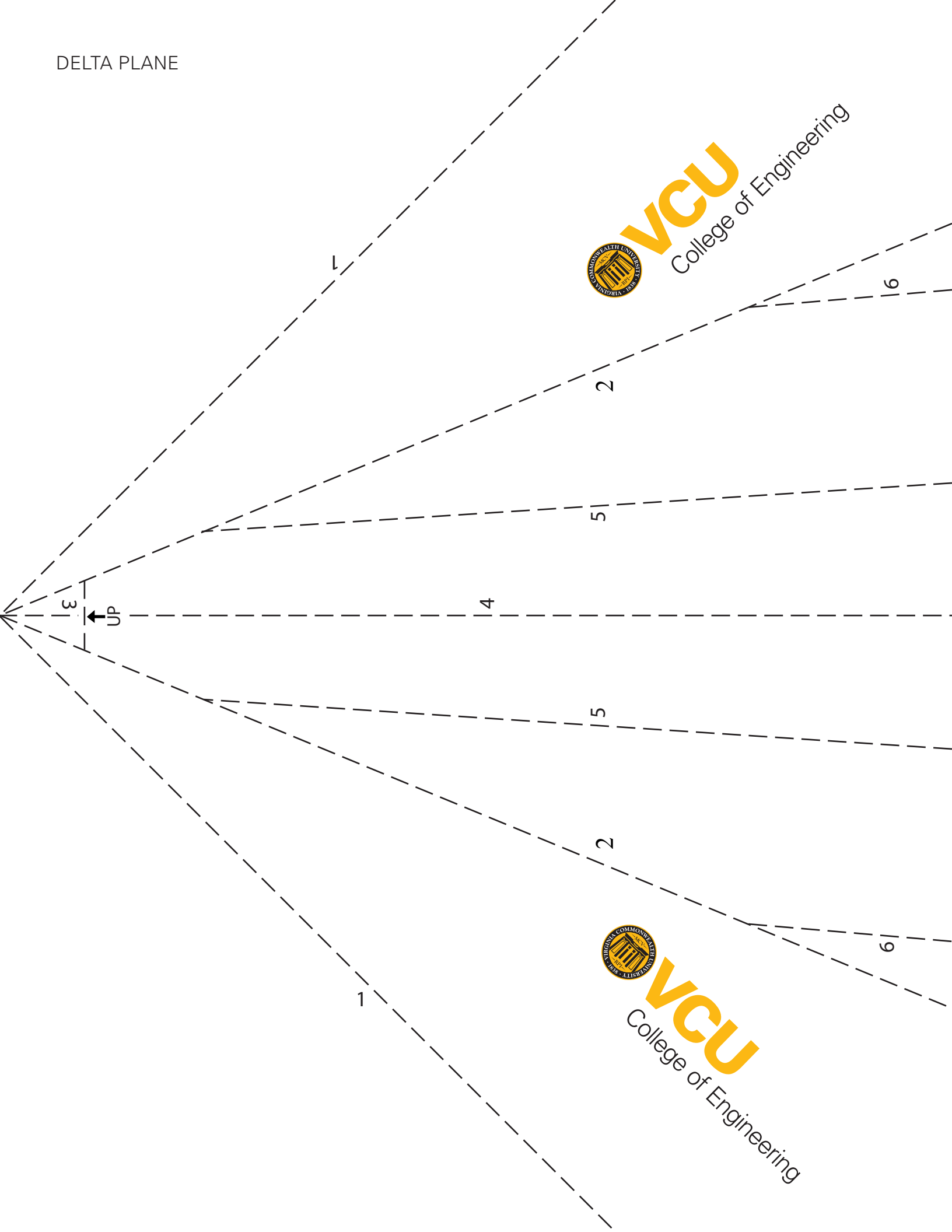
6

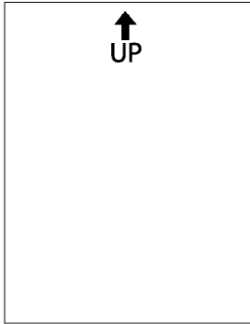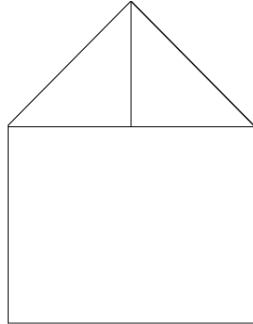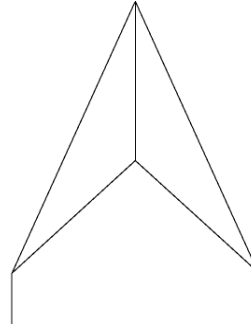# Interceptor Plane

Orient the template with the "UP" arrow at the top of the page. Then, flip the paper over onto its backside, so that you cannot see any of the fold lines.
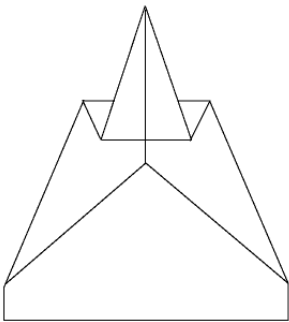
Pull the top right corner down toward you until fold line 1 is visible and crease along the dotted line. Repeat with the top left corner.
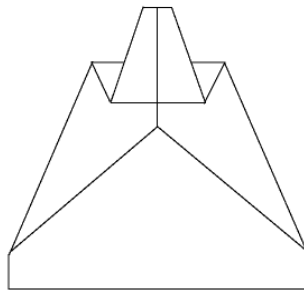
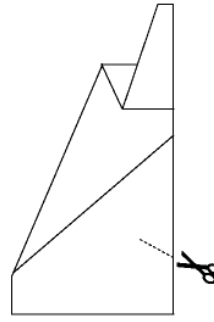Fold the right side over again and crease along fold line 2. Repeat with the left side.
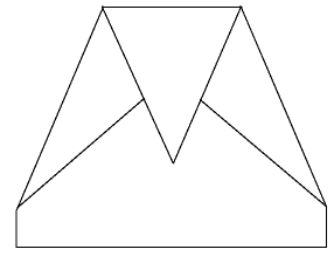
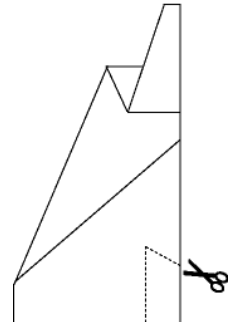Fold the nose down toward you along fold line 3.

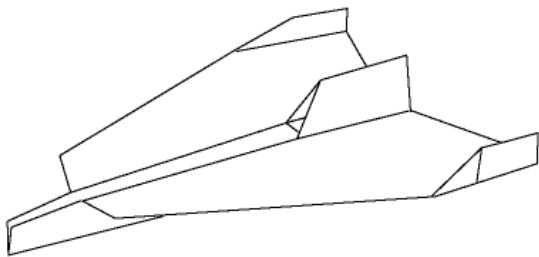Fold the nose back up and crease along fold line 4.

Fold the tip of the nose back away from you and crease along fold line 5.

Flip the plane over. Fold the right half of the plane over onto the left half along fold line 6. Cut along the dotted line 7 for the stabilizer.

Tuck the flap that was formed by your cut between the two halves of the plane and crease it along fold lines 8.
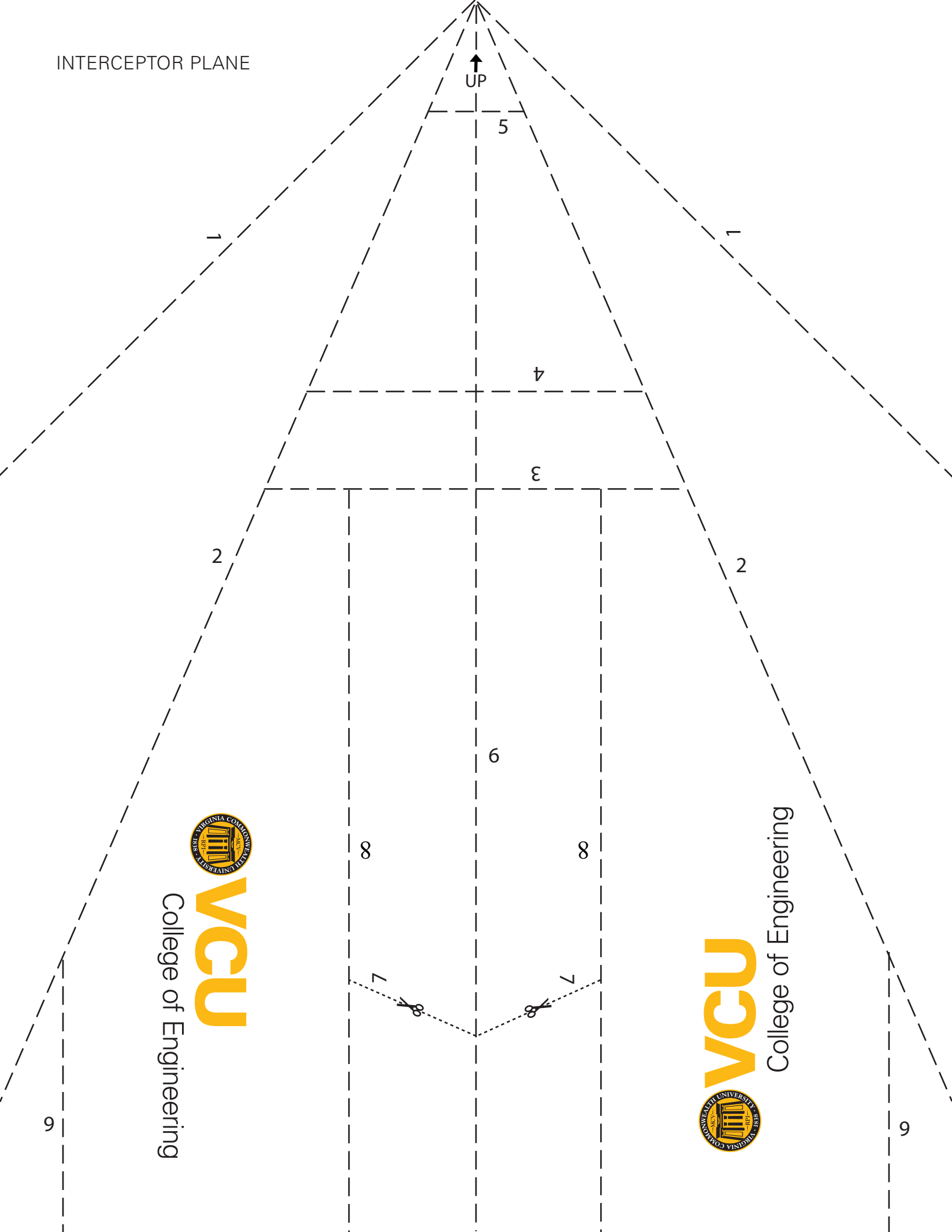
Fold the wings down along fold lines 8 and the winglets up along fold lines 9. Add wing dihedral by tilting the wings up slightly away from the fuselage. The wings will have a slight "V" shape when viewed from the front.
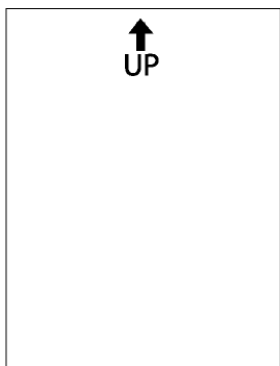
VERY IMPORTANT: Pull the back tip of the vertical stabilizer up and toward the front of the plane to put a slight upward curve to the trailing edge of the wings. This is to prevent the back edge of the wings from sagging downward. If you do not do this, your plane will nose-dive straight to the ground. After completing this step, you are ready to fly!
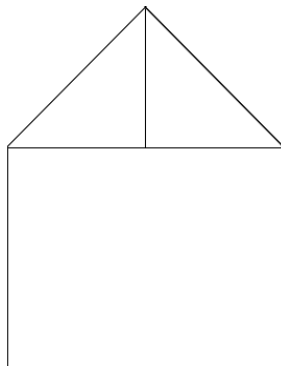
INTERCEPTOR PLANE

UP

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9

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Arrow Plane

Orient the template with the "UP" arrow at the top of the page. Then, flip the paper over onto its backside, so that you cannot see any of the fold lines.
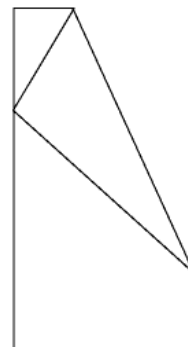
Pull the top right corner down toward you until fold line 1 is visible and crease along the dotted line. Repeat with the top left corner.
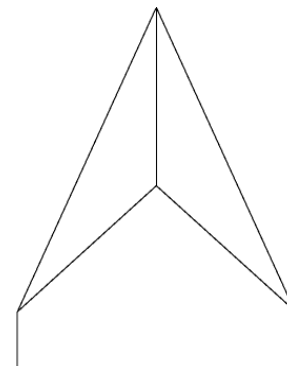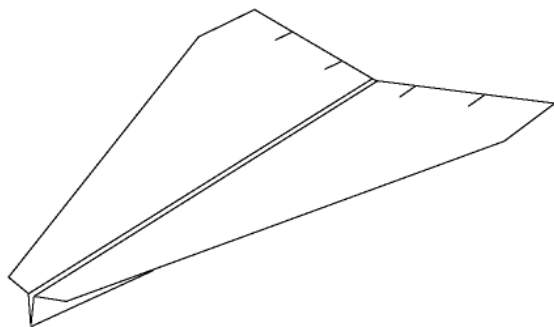
Fold the right side over again and crease along fold line 2. Repeat with the left side.
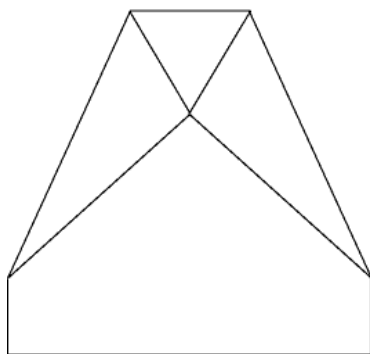
Fold the tip down toward you and crease along fold line 3.

Now, flip the paper over. Then, fold the left side over onto the right side and crease along fold line 4 so that the outside edges of the wings line up.

Fold the wings down along fold lines 5. Partially open the folds you just created so that the wings stick out straight. Cut two slits, one inch apart, along the back edge of each wing for elevator adjustments. The wings will have a slight "V" shape when viewed from the front. Now you are ready to fly!

ARROW PLANE

UP

1

1

2

2

3

4

5

5

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