```
% Read the image
image = imread('https://upload.wikimedia.org/
wikipedia/commons/thumb/1/10/Supermoon_Nov-14-2016-minneapolis.jpg/1200px-
Supermoon_Nov-14-2016-minneapolis.jpg');

% Convert to grayscale
gray_image = rgb2gray(image);

% Apply a low-pass Gaussian filter
gaussian_blur = imgaussfilt(gray_image, 1);  % Sigma 1, kernel size is
implicitly handled

% Apply a low-pass Average filter
average_blur = imfilter(gray_image, fspecial('average', [5, 5]));

% Apply thresholding to create a binary mask (Threshold values: 50 to 255)
binary_mask = gray_image > 120;

% Apply a high-pass Laplacian filter
laplacian_filter = imfilter(double(gray_image), fspecial('laplacian', 0));

% Apply a high-pass Prewitt filter
prewitt_x = imfilter(double(gray_image), fspecial('prewitt'));
prewitt_y = imfilter(double(gray_image), fspecial('prewitt')');
prewitt_filter = hypot(prewitt_x, prewitt_y);  % Magnitude of gradient

% Display the images
figure;

% Original Image
subplot(2, 3, 1);
imshow(image);
title('Original Image');

% Binary Mask
subplot(2, 3, 2);
imshow(binary_mask);
title('Binary Mask (Threshold 120-255)');

% Gaussian Blur
subplot(2, 3, 3);
imshow(gaussian_blur);
title('Gaussian Blur');

% Average Blur
subplot(2, 3, 4);
imshow(average_blur);
title('Average Blur');

% Laplacian Filter
```

```
subplot(2, 3, 5);
imshow(abs(laplacian_filter), []);
title('Laplacian Filter');

% Prewitt Filter
subplot(2, 3, 6);
imshow(prewitt_filter, []);
title('Prewitt Filter');
```